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1. PURPOSE AND AUTHORITY

Purpose

A water quality standard defines the water quality goals for a water body, or portion thereof, by designating the use or uses to be made of the water, by setting criteria necessary to protect the uses, and by protecting water quality through antidegradation provisions. The Fort Peck Assiniboine & Sioux Tribes are adopting these standards to protect public health and welfare, enhance the quality of water, and serve the purposes of the Clean Water Act. It is also the intent of the Tribes that these standards will be sufficient to protect any federally listed threatened or endangered species occurring on the reservation. The purposes of the Clean Water Act are to:

a) wherever attainable, achieve a level of water quality that provides for the protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water, and take into consideration the use and value of public water supplies, and agricultural, industrial, and other purposes, including navigation (sections 101(a)(2) and 303(c) of the Act); and

b) restore and maintain the chemical, physical, and biological integrity of the Nation's waters (section 101(a)); and,

These standards will specifically serve the dual functions of :

1) Assessment. A primary purpose of these water quality standards is to guide and inform efforts to monitor and assess surface water quality within the Reservation. These water quality standards play a central role in the Tribe's water quality protection program, and have broad application and use in evaluating potential impacts on water quality from a broad range of causes and sources.

2) Regulatory Controls. Any regulatory pollution controls established by the Tribe or the Federal Government must be developed to ensure a level of water quality that will satisfy these water quality standards. Regulatory pollution controls established for pollution sources shall be consistent with applicable portions of the Federal Clean Water Act.

Authority

These water quality standards are adopted by the Fort Peck Tribal Executive Board under authority established by the Fort Peck Tribes' Constitution, Title II of which provides that "the jurisdiction of the Tribes shall extend to the territory within the original confines of the Fort Peck Reservation as defined in the agreement of December 28 and 31, 1886, confirmed by the Act of May 1, 1888, (25 Stat. Sec. 113, ch. 212). . . ."

This Reservation contains lands owned by both Indian and non-Indians. Title IV

of the Constitution provides for a tribal governing body to be known as the Tribal Executive Board. Title VII enumerates the powers of this governing body. The enumerated powers include the power "to make and enforce ordinances covering the Tribes' right to levy taxes and license fees on persons or organizations doing business on the reservation, except that ordinances or regulations affecting non-members trading or residing within the jurisdiction of the tribes shall be subject to the approval of the Secretary of the Interior." (Sec. 3). They also include the powers "to promote public health, education, security, [and] charity . . . . (Sec 4.), "to provide . . . . for the maintenance of law and order and the administration of justice by establishing law and order and the administration of justice by establishing tribal courts and police force . . . . and to promulgate criminal and civil code or ordinances governing the conduct of the members of the tribes and non-member Indians residing within the jurisdiction of the tribes," (Sec.5) and "to protect and preserve the wildlife and natural resources of the Reservation and to regulate hunting and fishing on the reservation" (Sec. 5(c)). Thus, the Constitution confirms that tribal law extends to all lands, natural resources, public health and security and persons doing business on the reservation, as authorized by federal law.

Additionally, Indian tribes have the authority under the Federal Water Pollution Control Act to set water standards for waters within reservation boundaries, based on EPA's August 29, 1996 approval of the Tribes' program application.

2. TRIENNIAL REVIEW

The Tribes shall from time to time, but at least once every three years, hold public hearings for the purpose of reviewing applicable water quality standards and, as appropriate, modifying and adopting standards. For example, any water body segment with water quality standards that do not include the goal uses specified in CWA§ 101(a)(2) shall be re-examined every three years to determine if any new information has become available. If such new information indicates the CWA goal uses are attainable, the Tribes shall revise its standards accordingly. Public hearings shall be held in accordance with tribal law and US Environmental Protection Agency regulations. The proposed water quality standards revisions and supporting analyses shall be made available to the public prior to the hearing. The Tribe shall submit the revised standards and any supporting analyses to the EPA Regional Administrator for review and approval within 30 days following the final action to adopt revised standards. The tribal submission shall be consistent with EPA requirements found at 40 CFR 131.6.

3. DEFINITIONS

a) Act refers to the Clean Water Act (Public Law 92-500, as amended (33USC 1251, et seq.)(40 CFR 131.3)

b) Acute refers to a stimulus severe enough to rapidly induce an effect; in aquatic

toxicity tests, an effect observed in 96 hours or less is typically considered acute. When referring to aquatic toxicology or human health, an acute affect is not always measured in terms of lethality.

c) Acute-chronic ratio is the ration of the acute toxicity of an effluent or a toxicant to its chronic toxicity. It is used as a factor for estimating chronic toxicity on the basis of acute toxicity data, or for estimating acute toxicity on the basis of chronic toxicity data.

d) Acutely toxic conditions are those acutely toxic to aquatic organisms following their short-term exposure within an affected area.

e) Additivity is the characteristic property of a mixture of toxicant that exhibits a total toxic effect equal to the arithmetic sum of the effects of the individual toxicant.

f) Ambient toxicity is measured by a toxicity test on a sample collected from a water body.

g) Antagonism is the characteristic property of a mixture of toxicant that exhibits a less-than-additive total toxic effect.

h) Aquatic Community is an association of interacting populations of aquatic organisms in a given water body or habitat.

i) Averaging period is the period of time over which the receiving water concentration is averaged for comparison with criteria concentrations. This specification limits the duration of concentrations above the criteria.

j) Bioaccumulation is the process by which a compound is taken up by an aquatic organism, both from water and through food.

k) Bioaccumulation factor (BAF) is the ration of substance's concentration in tissue versus its concentration in ambient water, in situations where the organism and the food chain re exposed.

l) Bioassay is a test used to evaluate the relative potency of a chemical or a mixture of chemicals by comparing its effect on a living organism with the effect of a standard preparation on the same type of organism. Bioassays are frequently used in the pharmaceutical industry to evaluate the potency of vitamins and drugs.

m) Bioavailability is a measure of the physiochemical access that a toxicant has to the biological processes of an organism. The less the bioavailability of a toxicant, the less its toxic effect on an organism.

n) Bioconcentration is the process by which a compound is absorbed from water

through gills or epithelial tissues and is concentrated in the body.

o) Bioconcentration Factor (BCF) is the ration of a substance's concentration in tissue versus its concentration in water, in situations where the food chain is not exposed or contaminated. For non-metabolized substances, it represents equilibrium partitioning between water and organisms.

p) Biological criteria are narrative expressions or numeric values of the biological characteristics of aquatic communities based on appropriate reference conditions. As such, biological criteria serve as an index of aquatic community health. It is also known as biocriteria.

q) Biological integrity is the condition of the aquatic community inhabiting unimpaired water bodies of a specified habitat as measured by community structure and function.

r) Biological monitoring is the use of living organisms in water quality surveillance to indicate compliance with water quality standards or effluent limits and to document water quality trends. Methods of biological monitoring may include, but are not limited to, toxicity testing and biological surveys. It is also known as biological monitoring.

s) Biological survey or biosurvey is collecting processing, and analyzing a representative portion of the resident aquatic community to determine its structural and/or functional characteristics.

t) Biomagnification is the process by which the concentration of a compound increases in species occupying successive trophic levels.

u) Cancer potency factor (q_1^*) is an indication of a chemical's human cancer causing potential derived using animal studies or epidemiological data on human exposure; based on extrapolation of high-dose levels over short periods of time to low-dose levels and a lifetime exposure period through the use of a linear model.

v) Certification means a determination by the Fort Peck Tribes that the project or activity for which a federal license or permit is required is not expected to cause a violation of the tribal water quality standards.

w) Chronic defines a stimulus that lingers or continues for a relatively long period of time, often one-tenth of the life span or more. Chronic should be considered a relative term depending on the life span of an organism The measurement of a chronic effect can be reduced growth, reduced reproduction, etc., in additional to lethality.

x) Community component is a general term that may pertain to the biotic guild (fish, invertebrates, algae), the taxonomic category (order, family, genus, species), the feeding strategy (herbivore, omnivore, predator), or the organizational level (individual,

population, assemblage) of a biological entity within the aquatic community.

y) Completely mixed condition is defined as no measurable difference in the concentration of a pollutant exists across a transect of the water body.

z) Constructed Wetlands are those wetlands intentionally designed, constructed and operated on upland, non-wetland sites for the primary purpose of wastewater or stormwater treatment or environmental remediation. Constructed wetlands are not "waters of the Tribes."

aa) Criteria are elements of water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use. When criteria are met, water quality will generally protect the designated use.

ab) Criteria continuous concentration (CCC) is the EPA national water quality criteria recommendation for the highest instream concentration of a toxicant or an effluent to which organisms can be exposed for a brief period of time without causing an acute effect.

ac) Criteria maximum concentration (CMC) is the EPA national water quality criteria recommendation for the highest instream concentration of a toxicant or an effluent to which organisms can be exposed for a brief period of time without causing an acute effect.

ad) Critical life stage is the period of time in an organism's lifespan in which it is the most susceptible to adverse effects caused by exposure to toxicant, usually during early development (egg,embryo,larvae). Chronic toxicity tests are often run on critical life stages to replace only duration, life cycle tests since the most toxic effect usually occurs during the critical life stage.

ae) Design flow is the flow used for steady-state waste load allocation modeling.

af) Designated uses are those uses specified in water quality standards for each water body or segment whether or not they are being attained.

ag) Discharge length scale is the square root of the cross-sectional area of any discharge outlet.

ah) Diversity is the number and abundance of biological taxa in a specified location.

ai) Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an observable adverse effect (such as death, immobilization, or serious incapacitation) in a given percentage of the test organisms.

aj) Existing uses are those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards.

ak) Federal Indian Reservation, Indian Reservation, or Reservation is defined as all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation.

al) Final acute value (FAV) is an estimate of the concentration of the toxicant corresponding to a cumulative probability of 00.05 in the acute toxicity values for all genera for which acceptable acute tests ave been conducted on the toxicant.

am) Frequency is how often criteria can be exceeded without unacceptably affecting the community.

an) Harmonic mean flow is the number of daily flow measurements divided by the sum of the reciprocals of the flows. That is it is the reciprocal of the mean of reciprocals.

ao) Inhibition concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction (e.g. IC25) in a non-lethal biological measurement of the test organisms, such as reproduction or growth.

ap) Lethal concentration is the point estimate of the toxicant concentration that would be lethal to a given percentage of the test organisms during a specified period.

aq) Lipophilic is a high affinity for lipids (fats).

ar) Load allocations (LA) the portion of a receiving water TMDL that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources.

as) Lowest-observed-adverse-effect-level (LOAEL) is the lowest concentration of an effluent or toxicant that results in statistically significant adverse health effects as observed in chronic or subchronic human epidemiology studies or animal exposure.

at) Magnitude is how much of a pollutant (or pollutant parameter such as toxicity), expressed as a concentration or toxic unit is allowable.

au) Minimum level (ML) refers to the level at which the entire analytical system gives recognizable mass spectra and acceptable calibrations points when analyzing for pollutants of concern. This level corresponds to the lowest point at which the calibration curve is determined.

av) A mixing zone ia an allocated impact zone where numeric water quality criteria can

be exceeded as long as acutely toxic conditions are prevented.

aw) Navigable waters refer to the waters of the United State, including the territorial seas.

ax) No-observed-adverse-effect-level (NOAEL) is a tested dose of an effluent or a toxicant below which no adverse biological effects are observed, as identified from chronic or subchronic human epidemiology studies or animal exposure studies.

ay) No-observed-effect-concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. Determined using hypothesis testing.

az) Nonthreshold effects are associated with exposure to chemicals that have no safe exposure levels.

ba) Office of Environmental Protection (OEP) is the office which will administer the water quality standards for the Fort Peck Tribes

bb) Persistent pollutant is not subject to decay, degradation, transformation, volatilization, hydrolysis, or photolysis.

bc) Pollution is defined as the man-made or man-induced alteration of the chemical, physical, biological and radiological integrity of water.

bd) Priority pollutant are those pollutants listed by the Administrator of EPA under section 307(a) of the Clean Water Act.

be) Reference ambient concentration (RAC) is the concentration of a chemical in water which will not cause adverse impacts to human health; RAC is expressed in units of mg/l.

bf) Reference conditions describe the characteristics of water body segments least impaired by human activities. As such, reference conditions can be used to describe attainable biological or habitat conditions for water body segments with common watershed/catchment characteristics within defined geographical regions.

bg) Reference tissue concentration (RTC) is the concentration of a chemical in edible fish or shellfish tissue which will not cause adverse impacts to human health when ingested. RTC is expressed in units of mg/kg.

bh) Reference dose (RfD) is an estimate of the daily exposure to human population that is likely to be without appreciable risk of deleterious effect during a lifetime; derived from NOAEL or LOAEL.

bi) Section 304(a) criteria are developed by EPA under authority of section 304(a) of the Act based on the latest scientific information on the relationship that the effect of a constituent concentration has on particular aquatic species and/or human health. This information is issued periodically to the states as guidance for use in developing criteria.

bj) State is the State of Montana.

bk) Steady state model is a fate and transport model that uses constant values of input variables to predict constant values of receiving water quality concentrations.

bl) STORET is EPA's computerized water quality database that includes physical, chemical, and biological data measured in water bodies throughout the United States.

bm) Sublethal refers to a stimulus below the level that causes death.

bn) Synergism is the characteristic property of a mixture of toxicant that exhibits a greater-than-additive total toxic effect.

bo) Threshold effects result from chemicals that have a safe level (i.e. acute, subacute, or chronic human health effects.

bp) Total maximum daily load (TMDL) is the sum of the individual waste load allocations (WLAs) and load allocation (LAs); a margin of safety is included with the two types of allocations so that any additional loading, regardless of source, would not produce a violation of water quality standards.

bq) Toxicity test is a procedure to determine the toxicity of a chemical or an effluent using living organisms. A toxicity test measures the degree of effect on exposed test organisms of a specific chemical or effluent.

br) Toxic pollutant refers to those pollutants, or combination of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, or on the basis of information available to the administrator, cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions or physical deformations, in such organisms or their offspring.

bs) Toxic units (TUs) are a measure of toxicity in an effluent as determined by the acute toxicity units (TUa) or chronic toxicity units (TUc) measured.

bt) Toxic unite acute (TUa) is the reciprocal of the effluent concentration that causes 50 percent of the organisms to die by the end of the acute exposure period.

bu) Toxic unit chronic (TUc) is the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period.

bv) Use attainability analysis (UAA) is a structured scientific assessment of the factors affecting the attainment of the use which may include physical, chemical, biological, and economic factors as described in section 131.10(g)(40CFR 131.3)

bw) Waste Load allocation (WLA) is the portion of receiving water's TMDL that is allocated to one of its existing or future point sources of pollution.

bx) Water quality assessment is an evaluation of the condition of a water body using biological surveys, chemical specific analyses of pollutants in water bodies, and toxicity tests.

by) Water quality limited segment refers to any segment where it is known that water quality does not meet applicable water quality standards and/or is not expected to meet applicable water quality standards even after application of technology-based effluent limitations required by sections 301(b)(1)(A) and (B) and 306 of the Act (40CFR 131.3)

bz) Water quality standards (WQS) are provisions of Tribal or Federal law which consist of a designated use or uses for the waters of the United States, water quality criteria for such waters based upon such uses, and an antidegradation policy. Water quality standards are to protect public health or welfare, enhance the quality of the water and serve the purposes of the Act.

ca) Water of the Tribes refer to:

1) all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tribe;

2) all interstate waters, including interstate wetlands;

3) all other waters such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use or degradation of which would affect or could affect interstate or foreign commerce, including any such waters:

   i) which are or could be used by interstate or foreign travelers for recreational or other purposes;

   ii) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

iii) which are or could be used for industrial purposes by industries in interstate commerce.

4) all impoundments of water otherwise defined as waters of the Tribes under this definition;

5) tributaries of waters in paragraphs (1) through (4) of this definition;

6) the territorial sea; and

7) wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6) of this definition. Wetlands are defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Act (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria for this definition are not waters of the Tribes.

cb) Whole-effluent toxicity is the total toxic effect of an effluent measured directly with a toxicity test.

4. ANTIDEGRADATION POLICY

Antidegradation rule

The Tribes' shall develop and adopt a reservation-wide antidegradation policy and identify the methods for implementing such policy pursuant to this subpart. The antidegradation policy applicable to all water of the Tribes is as follows:

a) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

b) Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the Tribes' finds, after appropriate intergovernmental coordination and public participation that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the Tribes' shall assure water quality adequate to protect existing uses fully. Further, the Tribes' shall assure that there shall be achieved the highest statutory and

regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

c) Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

d) In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with section 316 of the Act.

Antidegradation Review Process (Reserved)

5. NARRATIVE WATER QUALITY CRITERIA

1) All surface water on the reservation shall be free from substances attributable to wastewater discharges or other pollutant sources that:

a) settle to form objectionable deposits,

b) float as debris, scum, oil, or other matter forming nuisances,

c) produce objectionable color, odor, taste, or turbidity,

d) cause injury to, or are toxic to, or produce adverse physiological responses in humans, animals, or plants; or

e) produce undesirable or nuisance aquatic life.

2) Implementation. The narrative water quality criteria shall be implemented taking into consideration appropriate EPA technical guidance concerning development of water quality-based controls, such as methods described in the Technical Support Document for Water Quality Based Toxics Control, EPA, 1991. For substances for which numeric water quality criteria have not been adopted, these narrative water quality criteria shall be implemented considering appropriate information, including any criteria guidance issued by EPA under CWA § 304(a) and/or information in EPA's toxicity databases. For substances where numeric criteria have not been adopted for the public water supply use, these narrative water quality criteria shall be implemented considering any drinking water standards or health advisories issued by EPA under the Safe Drinking Water Act. Implementation of (a)(4) for purposes of NPDES permits shall result in appropriate acute and chronic effluent quality limitations consistent with the federal water quality based permitting requirements found at 40 CFR 122.44(d), including appropriate whole effluent toxicity (WET) limitations as required in the latest edition of the EPA region VIII NPDES Whole Effluent Toxics Control Program document.

6. NARRATIVE BIOLOGICAL CRITERIA

The Fort Peck Tribes have used biological monitoring as an assessment tool on the streams within the exterior boundaries of the Reservation excluding the Missouri River. In addition to identifying water quality problems, biological monitoring data has been used and will continue to be used to prioritize abatement projects for non point source activities on the Reservation.

A reference condition has been developed and is compared to the actual biological condition in the stream. This comparison, or index, is related to the biological condition category of the stream. The biological condition categories are: Non-impaired, moderately impaired, and severely impaired.

a) Criterion

Reservation waters shall be free from substances in concentrations or combinations that would adversely alter the structure and function of aquatic communities, as defined by the reference condition.

For the Missouri River, water quality shall be maintained sufficient to fully support the aquatic life designated use. No adverse changes in aquatic community composition may occur.

b) Implementation

The intent of the Tribes in adopting a narrative biological criterion is solely to provide an additional assessment tool that can be used to identify impaired surface waters. At this point in time, regulatory or enforcement actions based solely on the Tribes' narrative biological criterion, such as development and enforcement of NPDES permit limits, are not authorized. However, biological assessment information may be used in combination with other information for example, to assist in determining whether existing permits are fully protecting designated uses and to assist in determining whether new or revised chemical-specific permit limitations are needed.

In addition, the scope of how the Tribes' narrative biological criterion is used may change in the future as the Tribes become more experienced and confident in their biological assessment program. Implementation shall be based on comparison of current biological conditions at a particular site to the conditions deemed attainable based on an appropriate reference site or condition. In all cases appropriate sampling and analysis techniques shall be used, consistent with recommended EPA methods and the Tribes' Quality Assurance Project Plan (QAPP).

7. WATER QUALITY STANDARDS FOR WETLANDS

The Office of Environmental Protection recognizes that the natural water quality

of wetlands may differ from that of associated streams. Existing water quality, functions and values of wetlands will be protected.

Wetlands Not Specifically Listed in Appendix A. Wetlands not specifically listed in Appendix A that are not constructed wetlands are considered "waters of the Tribes" and shall be subject to narrative criteria and applicable antidegradation provisions. Such wetlands are generally assumed to provide habitat capable of supporting aquatic biota (e.g., fish, macroinvertebrates, amphibians, or hydrophytic vegetation) on a regular or periodic basis. It shall be a goal of the Tribes to maintain the water quality of wetlands at naturally occurring levels, within the natural range of variation for the individual wetland. For substances that are not naturally occurring, water quality requirements shall be based on protecting existing uses of the wetland consistent with criteria, criteria assigned to hydrologically-connected surface waters, or appropriate criteria guidance issued by the U. S. Environmental Protection Agency. Wetlands shall not be considered as repositories or treatment systems for wastes from human sources.

Wetlands listed in Appendix A. For wetlands specifically listed in Appendix A, the designated uses (e.g., the Wetlands or other designated use) and numeric criteria assigned to such wetlands shall apply. In addition, such wetlands shall be subject to narrative criteria and applicable antidegradation provisions.

8. DESIGNATED USES

Section 131.10 of 40 CFR requires that the Tribes consider assigning aquatic life, recreation, and other designated user to all surface waters of the reservation in order to achieve national "fishable and swimmable" goals. Therefore, the Tribes shall use the following designated use classifications for the reservation.

(A) Designated Uses

The following designated uses may be applied to reservation surface waters:

Public Water Supply - These surface waters are suitable or intended to become suitable for potable water supplies.

Primary Contact Recreation - These surface waters are suitable or intended to become suitable for recreational activities in or on the water when the ingestion of small quantities of water is likely to occur. Such waters include but are not limited to those used for swimming, ceremonial uses, and wading.

Secondary Contact Recreation - These surface waters are suitable or intended to

become suitable for recreational activities on or about the water which are not included in the primary contact category, including but not limited to fishing and other streamside or lakeside recreation.

Class 1 Cool Water Aquatic Life - provides for protection and propagation of nonsalmonid fishes, marginal growth of salmonid fishes, growth and propagation of aquatic life normally found in water where the summer temperature does not often exceed 23° Celsius.

Class 1 Warm Water Aquatic Life - provides for the protection and propagation of nonsalmonid fishes and aquatic life normally found in water where the summer temperature frequently exceeds 23° Celsius.

Class 2 Cool or Warm Water Aquatic Life - These are waters that are not capable of sustaining a wide variety of cool or warm water biota, including sensitive species, due to physical habitat, water flows or levels, or incorrectable water quality conditions that result in substantial impairment of the abundance and diversity of species.

Industrial Water Supply. These are waters that are suitable for industrial processes and cooling water.

Agriculture - These surface waters are suitable or intended to become suitable for crops usually grown on the reservation and which are not hazardous as drinking water for livestock.

Navigation - These surface water are suitable for the commercial shipping of goods.

Wetlands - To maintain and restore natural wetland characteristics and functions, within the natural range of variation of the affected wetland.

(B) Qualifiers

The following qualifiers may be appended to a designated use: for example, "Class 1, Warm Water Aquatic Life (Goal)".

(1) Goal - A qualifier which indicates that the waters are presently not fully suitable but are intended to become fully suitable for the designated use.

(2) Intermittent Waterbody - A qualifier which indicates that the water may not be present in the segment due to natural conditions during certain periods of the year. During those periods when water is no present in the stream, the

(3) Upstream designated uses must not jeopardize downstream designated uses or actual uses.

(4) Designated uses should be for the highest water quality attainable. Attainability is to be judged by whether or not the use designation can be attained in twenty years by reasonable control techniques that are determined during public hearings. At a minimum, uses are deemed attainable if they can be achieved by the imposition of effluent limits required under the Federal Act for point sources and cost-effective and reasonable best management practices for nonpoint source control, in accordance with duly adopted regulations.

(5) Relevant physical, chemical and biological characteristics are valid water quality concerns that may be taken into account in the use designation process.

(E) CHANGING USE DESIGNATIONS

The Office of Environmental Protection may recommend changes in use designations. All such recommendations shall be consistent with federal requirements found at 40 CFR 131.10. Use attainability analyses shall be performed considering guidance and methods recommended by the EPA. Where such changes to designated uses are sought by any person, a Use Attainability Analysis may be required to show that current designated uses are not achievable.

(F) RESERVATION SURFACE WATER BENEFICIAL USE DESIGNATIONS

Use designations for reservation surface waters are listed in Table 1 in Appendix A.

9. NUMERICAL CRITERIA

Numeric criteria will include values for physical, chemical and biological parameters. Chemical water quality criteria are listed in Fort Peck Reservation Water Quality Criteria Table, Appendix B. Reference sources used to compile Fort Peck Reservation Water Quality Criteria Table (FPRWQCT) are the EPA Region VIII's Clean Water Action Section 304(a) Criteria Chart dated 07/01/93, and Standards established as drinking water maximum contaminant levels (MCL's). It is anticipated that Fort Peck Reservation Water Quality Criteria Table will be added to, modified, and/or updated as additional or new information becomes available. Care Should be exercised to ensure that the most recent version (by date) is used as a reference.

Fort Peck Reservation Water Quality Criteria Table is a complex document. Close attention must be paid to the frequent use of detailed 'notes of explanation". They are

used in both the table headings and individual line items, many times both. Detailed notes of explanation follow the table portion of Fort Peck Reservation Water Quality Criteria Table and are found in the format of (n) where n is a number.

Fort Peck Reservation Water Quality Criteria Table uses the more restrictive value of either the 304(a) or the drinking water MCL for Human Health Standards, whenever required, in order to fully protect the reservation's waters. For instance, if the human-health Standard for a particular pollutant has been established at 1,200 µg/L (micro-grams per Liter) and the same pollutant has an organoleptic (taste and/or odor) Standard established at 20 µg/L, then Fort Peck Reservation Water Quality Criteria Table would have the Standard set at the more limiting value of 20µg/L In similar manner, whenever both Aquatic Life Standards and Human Health Standards exist for the same analyte, the more restrictive of these values will be used as the numeric Surface Water Quality Standard. Human Health Criteria aplly to all waters with a public water supply and/or an aquatic life use.

Fort Peck Reservation Water Quality Criteria Table sets Standards for surface waters. In addition, FPRWQCT lists values which will be used in conjunction with the antidegradation implementation procedures being developed in order to determine and evaluate degradation. Standards for 'Harmful' parameters will be used as antidegradation criteria for surface waters. Except where noted, the surface water analysis method is always 'total-recoverable'.

Special attention should be paid to the pollutants/conditions such as ammonia, hardness, and oxygen as the standards are set over a range of values, or are computed using a complex formula, or depend upon special circumstances.

Alkalinity, chloride, hardness, sediment, sulfate, odor, and total dissolved solids have 'Narrative Standards' and are referenced to the Narrative Criteria section of this standards document for further details and explanation.

The Standards for fecal coliform, biological criteria, dissolved gases, pH and temperature are listed in the Physical and Biological Parameters Table 2 in Appendix C.

10. MIXING ZONE AND DILUTION POLICY

Mixing zones are regions surrounding or downstream of a point source discharge in which the discharge is progressively diluted by the receiving water and numerical water quality criteria may not apply. This policy describes how dilution and mixing of point source discharges within receiving waters will be addressed in developing discharge limitations for point source discharges.

A) Mixing Zones

1) Where justified based on site-specific considerations and where the discharge does not mix at a near instantaneous and complete rate, mixing zones may be designated. Mixing zones are not authorized for discharges to lakes, reservoirs and wetlands. Each mixing zone will be developed on a case-by-case basis to protect the most sensitive designated use, consistent with the latest EPA guidance. Individual mixing zones may be limited or denied when the following concerns in the area affected by the discharge have been considered:

a) bioaccumulation in fish tissues or wildlife;
b) biologically important areas such as fish spawning/nursery areas or segments with occurrences of federally listed threatened or endangered species;
c) low acute to chronic ratio;
d) potential human exposure to pollutants resulting from drinking water or recreational activities;
e) attraction of aquatic life to effluent plume;
f) toxicity/persistence of the substance discharged;
g) zone of passage for migrating fish or other species (including access to tributaries), and
h) cumulative effects of multiple discharges and mixing zones (e.g., on a watershed scale, mixing zones should not total more than 10% of all river/stream miles).

2) Effluent limits will be assigned consistent with mixing zone size limits determined by field study, an appropriate mixing model, or other defensible method.

3) Chronic mixing zones shall not exceed one-half of the cross-sectional area or a length ten times the stream width at critical low flow, whichever is more limiting. Mixing zones for chemical-specific acute criteria, or zones of initial dilution, may not exceed 10% of the chronic mixing zone volume or flow. Mixing zones for purposes of developing acute whole effluent toxicity effluent limitations are not authorized.

4) Narrative Water quality Criteria defined in Section 5(1) are applicable within mixing zones.

B) Dilution Allowances

1) For discharges to rivers and stream where it is reasonable to conclude that the discharge mixes in a near instantaneous and complete manner, a dilution allowance equal to or less than the critical low flows identified in Section 11, part (G) may be provided for purposes of developing acute and chronic chemical-specific and whole effluent toxicity effluent limitations. For minor POTW's where the discharge does not mix in a near instantaneous and complete manner, such dilution allowances may also

be provided for purposes of developing acute whole effluent toxicity effluent limitations. For intermittent discharges, such as lagoon facilities that discharge during high ambient flow, the stream flow to be used in the mixing zone analysis should be the lowest flow expected to occur during the period of discharge.

2) Near instantaneous and complete mixing may be assumed where the mean daily flow of the discharge exceeds the critical low flow of the receiving water, or where an effluent diffuser has been installed. In all other cases where instantaneous and complete mixing is assumed, a defensible basis will be included in the statement of basis for the permit. For purposes of field mixing studies, near instantaneous and complete mixing is defined as no more than 10% difference in bank-to-bank concentrations within a longitudinal distance not greater than 2 stream/river widths.

C) Other Considerations

1) Where dilution flow is not available at critical conditions, the discharge limits will be based on achieving applicable water quality criteria at the end-of-pipe, and neither a mixing zone or an allowance for dilution will be provided.

2) All mixing zone dilution assumptions are subject to review and revisions as information on the nature and impacts of the discharge becomes available (e.g., chemical or biological monitoring in the mixing zone boundary). Where justified, the discharger may be required to conduct in-stream monitoring to verify that mixing zone restrictions are being achieved. At a minimum, mixing zone and dilution decisions ar subject to review and revision along with all other aspects of the discharge permit upon expiration of the permit.

3) For certain pollutants (e.g., ammonia, dissolved oxygen, metals) that may exhibit increased toxicity or other effect on water quality after dilution and complete mixing with receiving waters is achieved, the wasteload allocation shall address such toxicity or other effect on water quality as necessary to fully protect beneficial uses (i.e., the point of compliance may be something other than the mixing zone boundary or the point where complete mixing is achieved).

Dilution allowances shall be developed considering guidance issued by EPA, including the *EPA Region VIII Mixing Zone and Dilution Policy*. Critical low flows for use in developing dilution allowances are specified in the Tribes' critical conditions policy.

11. STANDARDS IMPLEMENTATION

A) All discharges from point sources, all instream activities, and all activities that generate nonpoint source pollution are to be conducted so as to achieve these water quality standards. The Tribes' anticipate that both regulatory and voluntary pollution control programs will be needed to address all current and future water quality problems on the Fort Peck Reservation.

B) All federal licenses and permits, such as permits for wastewater discharges issued under the National Pollutant Discharge Elimination System (NPDES), shall be conditioned in such a manner as to authorize only activities that will not cause violations of these water quality standards. For new standards, revised standards that have become more stringent, or new interpretations of existing standards, schedules of compliance may be included in such permits where appropriate Compliance schedules will be developed considering guidance issued by EPA.

C) Until such time as the Tribes receive eligibility to implement Section 402 of the Clean Water Act, discharge permits will be issued by the EPA to comply with the Tribes' water quality standards. All discharge permit applications will be reviewed by both the Tribes and the EPA. The Tribes have the authority to deny certification of any discharge into reservation waters as described in paragraph E) of this section if they determine that the proposed discharge would cause violation of the Tribes' water quality standards.

The Tribes will conduct compliance inspection of all permitted facilities on the reservation. Inspection results will be submitted to the EPA for review for compliance. The EPA will also have the responsibility of enforcing NPDES permit violations. However, under the Act the Tribes' may initiate citizen suits pursuant to section 505 against EPA or the permittee to correct permit violations.

D) The Tribes reserve the right to identify, in a water quality certification, specific water quality standards implementation methods to be used in developing water quality-based point and nonpoint source control requirements. All controls shall be developed using technically-defensible methods such as those described in EPA guidance documents. These water quality standards will serve as the basis for any § 303(d) total maximum daily loads (TMDLs) developed for tribal waters.

E) All activities which require a federal license or permit on the reservation are subject to certification by the Fort Peck Tribes consistent with § 401 of the Clean Water Act. In implementing this authority, and depending upon specific facts, the Tribes may decide to certify unconditionally, deny certification, or certify with conditions. Conditional certifications shall specify water quality protective conditions, best management practices, or monitoring requirements that must be implemented by the applicant. Where the Tribes determine that the conditions specified in a certification are not being implemented, or that an activity for which a certification was previously issued is causing a violation or contributing to a violation of the tribal water quality standards, the Tribes may suspend or revoke a certification pending corrective actions by the applicant, deny certification upon expiration and reissuance of the permit, or initiate a citizen suit consistent with CWA § 505.

F) These water quality standards apply to all waters affected by nonpoint sources of pollution. At this time, the Tribes intend to rely on voluntary compliance for activities which result in nonpoint sources of pollution but do not require a federal license or

permit. All appropriate combinations of individual best management practices should be applied to avoid violation of water quality standards.

G) Critical Conditions Policy

1) For purposes of determining water quality based control requirements for point source discharges, critical conditions shall be determined consistent with the policy and procedure described below, where a steady state modeling approach is used. Where seasonal controls are appropriate, critical conditions shall be determined based on seasonal characteristics of the receiving water and pollution source. Other exceptions may be granted where a technically sound reason to use an alternative method is developed and approved by the Office of Environmental Protection (e.g. where a dynamic or continuous simulation modeling method is used). Critical conditions shall be representative of conditions upstream from the point where the discharge exists.

a) Stream Flow[1]

Aquatic life, chronic	4-day, 3-year flow (biologically based)
Aquatic life, acute	1-day, 3-year flow (biologically based)
Human health (carcinogens)	harmonic mean flow
Human health (non-carcinogens)[2]	4-day, 3-year flow(biologically based)or 1-day, 3-year flow(biologically based)

b) Effluent Flows

Aquatic life, chronic	Mean daily flow
Aquatic life, acute	Maximum daily flow
Human Health (all)	Mean daily flow

c) Temperatures and pH (for effluent and receiving waters)
80th percentile of all samples that are representaive of the site

d) Hardness (for effluents and receiving waters).
20th percentile of all samples that are representative of the site.

e) Ambient Quality.

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[1]Application of these low flows in determining dilution assumptions is subject to application of the Tribe's mixing zone and dilution policy.

[2]For human health non-carcinogens, a distinction is made between parameters that typically have an effect after prolonged exposures (e.g. copper) and those that have more of an immediate effect (e.g. nitrate). The chronic aquatic life flow shall be used for the longer-lasting parameters and the acute aquatic life flow for the shorter-acting parameters.

Dissolved Oxygen - the 20th percentile of all samples that are representative of the site

Fecal Coliform - the geometric mean of available data.

Others - the 80th percentile of all samples that are representative of the site.

12. ANALYTICAL METHODS

All methods of analysis used in measuring the chemical water quality of surface waters for purposes of determining compliance with these standards shall be in accordance with procedures prescribed in the current Code of Federal Regulations, Title 40, part 136.

The Fort Peck Tribes have adopted rapid bioassessment techniques from the EPA manual Rapid Bioassessment Protocols for use in Streams and Rivers, Benthic Macroinvertebrates and Fish, May 1989. Physical parameters shall be sampled using methods approved by the Office of Environmental Protection.

FORT PECK TRIBES
NUMERIC WATER QUALITY STANDARDS

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April 17, 1997

FPRWQCT, FORT PECK WATER QUALITY CRITERIA TABLE, is a compilation of the most recent Standards available for both Surface Waters and Ground Waters. Reference sources used to compile FPRWQCT are the Environmental Protection Agency (EPA) Region VIII's Clean Water Act Section 304(a) Criteria Chart, dated 07/01/1993, and Standards established as drinking water maximum contaminant levels (MCL's). It is anticipated that FPRWQCT will be added to, modified, and/or updated as additional or new information becomes available. Care should be exercised to ensure that the most recent version (by date) is used as a reference.

FPRWQCT is a complex document. Close attention must be paid to the frequent use of 'detailed notes of explanation'. They are used in both the table headings and individual line items, many times, both. Detailed notes of explanation follow the table portion of FPRWQCT and are found in the format of (n) where n is a number.

FPRWQCT uses the more restrictive value of either the 304(a) criteria or the drinking water MCL for Human Health Standards, whenever required, in order to be able to fully protect the concept of 'multi-use' of the Tribe's waters. For instance, if the human-health Standard for a particular pollutant has been established at 1,200 µg/L (micro-grams per Liter) and the same pollutant has an organoleptic (taste and/or odor) Standard established at 20 µg/L, then FPRWQCT would have the Standard set at the more limiting value of 20 µg/L. In similiar manner, whenever both Aquatic Life Standards and Human Health Standards exist for the same analyte, the more restrictive of these values will be used as the numeric Surface Water Quality Standard.

FPRWQCT sets Standards for surface waters. In addition, FPRWQCT lists values which are to be used in conjunction with the Fort Peck k Water Quality Standards et seq to determine and evaluate degradation. Standards for 'Harmful' parameters will be used as nondegredation criteria for both surface waters and ground waters. For a given pollutant, the Human Health Standard is the same for both surface and ground water but the analysis method differs. Except where noted, the surface water analysis method is always 'total-recoverable' while the analysis method used for ground water will be 'dissolved'.

Special attention should be paid to the pollutants/conditions such as ammonia, hardness, and oxygen as the Standards are set over a range of values, or are computed using a complex formula, or depend upon special circumstances.

Alkalinity, chloride, hardness, sediment, sulfate, and total dissolved solids have 'Narrative Standards' and are referenced back to the Fort Peck Water Quality Standards et seq for further details and explanation.

The Standards for fecal coliform, color, dissolved gases, odor, pH, and temperature are dependent upon the water-use classifications as specified in Fort Peck Water Quality Standards.

Except where indicated, values are listed as micro-grams-per-liter (µg/L). A '---' indicates that a Standard has not been adopted or information is currently unavailable. A '(n)' indicates that a detailed note of explanation is provided.

Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Acenaphthene §§ --- § Acenaphthalene § Naphthyleneethylene § 1,8-Ethylenenaphthalene § 1,8-Ethylene Naphthalene § 1,2-Dihydroacenphthylene § Acenaphthylene, 1,2-Dihydro-	83329 or 83-32-9 NIOSH: AB 1255500 SAX: AAE750	Harmful	—	—	242	20	N/A	10
Acenaphthylene (PAH) §§ --- § Cyclopenta(De)Naphthalene	208968 or 208-96-8 NIOSH: AB 1254000 SAX: AAF500	Toxin	—	—	30	—	2.3	10
Acrolein §§ --- § Biocide § Crolean § Aqualin § Aqualine § Propenal § SHA 00701 § 2-propenal § Acraldehyde § Acrylaldehyde § Acrylic Aldehyde § Ethylene Aldehyde	107028 or 107-02-8 NIOSH: AS 1050000 SAX: ADR000	Toxin	—	—	215	320	0.7	20
Acrylamide §§ 2-Propenamide § Propenamide § Acrylic Amide § Ethylenecarboxamide § RCRA Waste Number U007	79061 or 79-06-1 NIOSH: AS 3325000 SAX: ADS250	Carcinogen	—	—	—	0.008	N/A	—
Acrylonitrile §§ --- § Ventox § ENT 54 § TL 314 § Fumigrain § Carbacryl § Cyanoethylene § Vinyl cyanide § Propenenitrile § 2-Propenenitrile § Acrylonitrile monomer § RCRA Waste Number U009	107131 or 107-13-1 NIOSH: AT 5250000 SAX: ADX500	Carcinogen	—	—	30	0.059	N/A	20
Alachlor §§ --- § Lazo § Lasso § Alator § Alanex § Alochlor § Pillarzo § Metachlor § Chinuclor § SHA 090501 § Methachlor § 2-Chloro-N-(2,6-Diethyl)Phenyl-N-Methoxymethylacetamide § 2-Chloro-2',6'-Diethyl-N-(Methoxymethyl)Acetanilide	15972608 or 15972-60-8 NIOSH: AE 1225000 SAX: CFX000	Carcinogen	—	—	—	2	N/A	0.4
Aldicarb §§ Temik § Temic § Ambush § OMS 771 § Temik G 10 § Aldecarb § Carbamyl § SHA 098301 § Carbanolate § Sulfone Aldoxycarb § Union Carbide 21149 § RCRA Waste Number P070 § Propanal, 2-Methyl-2-(Methylthio)-, O-[(Methylamino)Carbonyl]Oxime	116063 or 116-06-3 NIOSH: UE 2275000 SAX: CBM500	Toxin	—	—	—	1	1	1
Aldicarb Sulfone §§ Aldoxycarb § Standak § UC 21865 § Sulfocarb § SHA 110801 § Propionaldehyde, 2-Methyl-2-(Methylsulfonyl)-, O-(Methylcarbomoyl)Oxime § 2-Methyl-2-(Methylsulfonyl)Propanal O-[(Methylamino)Carbonyl]Oxime	1646884 or 1646-88-4 NIOSH: UE 2080000 SAX: AFK000	Toxin	—	—	—	1	1	1
Aldicarb Sulfoxide §§ ---	1646873 or 1646-87-3 NIOSH: --- SAX: ---	Toxin	—	—	—	4	1	1

Except where indicated, values are listed as micro-grams per-liter (µg/L). A '--' indicates that a Standard has not been adapted or information is currently unavailable. A '(n)' indicates that a detailed note of explanation is provided.

Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Aldrin §§ --- § HHDN § Altox § Drinox § Aldrex § Aldrite § Seedrin § Octalene § SHA 045101 § RCRA Waste Number P004 § Hexachlorohexahydro-endo-exo-Dimethanonaphthalene § 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-Hexahydro-1,4,5,8-Dimethanonaphthalene § 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-Hexahydro-endo,exo- § 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-Hexa-Hydro-1,4:5,8-Endo,Exo-Dimethanonaphthalene § 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-Hexahydro-1,4-endo-exo-5,8-Dimethanonaphthalene	309002 or 309-00-2 NIOSH: IO 2100000 SAX: AFK250	Carcinogen	1.5	---	4,670	0.00013	N/A	0.2
Alkalinity, total, as $CaCO_3$ §§ ---	471341 or 471-34-1 NIOSH: --- SAX: ---	Narrative (18)	---	---	---	---	---	5,000
Alpha Emitters §§ --- § Gross Alpha § Adjusted Gross Alpha	Multiple	Carcinogen / Radioactive	---	---	---	15 pico-curies/liter	N/A	---
Aluminum, pH 6.5 to 9.0 only (9) (6) §§ Al	7429905 or 7429-90-5 NIOSH: BD 0330000 SAX: AGX000	Toxin	750	87	---	---	30	95.4
Ammonia plus un-ionized ammonia as N §§ --- § Ammonia Anhydrous § Anhydrous Ammonia § Spirit of Hartshorn	7664417 or 7664-41-7 NIOSH: BO 0875000 SAX: AMY500	Toxin	(7)(8)	(7)(8)	---	---	10 pH and temperature dependent	50
Anthracene (PAH) §§ Paranaphthalene § Green Oil § Anthracin § Tetra Olive N2G	120127 or 120-12-7 NIOSH: CA 9350000 SAX: APG500	Toxin	---	---	30	9,600	0.04	0.2
Antimony (9) §§ Sb § Antimony Black § Antimony Regulus § C.I. 77050 § Stibium	7440360 or 7440-36-0 NIOSH: CC 4025000 SAX: AQB750	Toxin	---	---	1	14	0.4	3.18
Aroclor 1016 §§ PCB 1016 § PCB-1016 § Arochlor 1016 § Chlorodiphenyl (16% Cl) § Polychlorinated Biphenyl (Aroclor 1016)	12674112 or 12674-11-2 NIOSH: --- SAX: ---	Carcinogen	---	0.014	31,200	0.000044	N/A	1
Aroclor 1221 §§ PCB 1221 § PCB-1221 § Arochlor 1221 § Chlorodiphenyl (21% Cl) § Polychlorinated Biphenyl (Aroclor 1221)	11104282 or 11104-28-2 NIOSH: TQ 1352000 SAX: PJM000	Carcinogen	---	0.014	31,200	0.000044	N/A	15
Aroclor 1232 §§ PCB 1232 § PCB-1232 § Arochlor 1232 § Chlorodiphenyl (32% Cl) § Polychlorinated Biphenyl (Aroclor 1232)	11141165 or 11141-16-5 NIOSH: TQ 1354000 SAX: PJM250	Carcinogen	---	0.014	31,200	0.000044	N/A	1

Except where indicated, values are listed as micro-grams-per-liter (µg/L). A '--' indicates that a Standard has not been adopted or information is currently unavailable. A '(n)' indicates that a detailed note of explanation is provided.

Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Aroclor 1242 §§ PCB 1242 § PCB-1242 § Arochlor 1242 § Chlorodiphenyl (42% Cl) § Polychlorinated Biphenyl (Aroclor 1242)	53469219 or 53469-21-9 NIOSH: 1356000 SAX: PJM500	Carcinogen	—	0.014	31,200	0.000044	N/A	1
Aroclor 1248 §§ PCB 1248 § PCB-1248 § Arochlor 1248 § Chlorodiphenyl (48% Cl) § Polychlorinated Biphenyl (Aroclor 1248)	12672296 or 12672-29-6 NIOSH: TQ 1358000 SAX: PJM750	Carcinogen	—	0.014	31,200	0.000044	N/A	1
Aroclor 1254 §§ PCB 1254 § PCB-1254 § Arochlor 1254 § Chlorodiphenyl (54% Cl) § Polychlorinated Biphenyl (Aroclor 1254) § NCI C02664	11097691 or 11097-69-1 NIOSH: TQ 1360000 SAX: PJN000	Carcinogen	—	0.014	31,200	0.000044	N/A	1
Aroclor 1260 §§ PCB 1260 § PCB-1260 § Clophen A60 § Arochlor 1260 § Phenoclor DP6 § Chlorodiphenyl (60% Cl) § Polychlorinated Biphenyl (Aroclor 1260)	11096825 or 11096-82-5 NIOSH: TQ 1362000 SAX: PJN250	Carcinogen	—	0.014	31,200	0.000044	N/A	1
Aroclor 1262 §§ PCB 1262 § PCB-1262 § Arochlor 1262 § Chlorodiphenyl (62% Cl) § Polychlorinated Biphenyl (Aroclor 1262)	37324235 or 37324-23-5 NIOSH: TQ 1364000 SAX: PJN500	Carcinogen	—	0.014	31,200	0.000044	N/A	1
Aroclor 1268 §§ PCB 1268 § PCB-1268 § Arochlor 1268 § Chlorodiphenyl (68% Cl) § Polychlorinated Biphenyl (Aroclor 1268)	11100144 or 11100-14-4 NIOSH: TQ 1366000 SAX: PJN750	Carcinogen	—	0.014	31,200	0.000044	N/A	1
Aroclor 2565 §§ PCB 2565 § PCB-2565 § Arochlor 2565 § Polychlorinated Biphenyl (Aroclor 2565)	37324246 or 37324-24-6 NIOSH: TQ 1368000 SAX: PJO000	Carcinogen	—	0.014	31,200	0.000044	N/A	1
Aroclor 4465 §§ PCB 4465 § PCB-4465 § Arochlor 4465 § Polychlorinated Biphenyl (Aroclor 4465)	11120299 or 11120-29-9 NIOSH: TQ 1370000 SAX: PJO250	Carcinogen	—	0.014	31,200	0.000044	N/A	1
Polychlorinated Biphenyl (Kanechlor 300) §§ --- § Kanechlor 300	37353632 or 37353-63-2 NIOSH: TQ 1372000 SAX: PJO500	Carcinogen	—	0.014	31,200	0.000044	N/A	1
Polychlorinated Biphenyl (Kanechlor 400) §§ --- § Kanechlor 400 § KC-400	12737870 or 12737-87-0 NIOSH: TQ 1374000 SAX: PJO750	Carcinogen	—	0.014	31,200	0.000044	N/A	1
Polychlorinated Biphenyl (Kanechlor 500) §§ --- § Kanechlor 500 § KC-500	37317412 or 37317-41-2 NIOSH: TQ 1376000 SAX: PJP000	Carcinogen	—	0.014	31,200	0.000044	N/A	1

Except where indicated, values are listed as micro-grams-per-liter (µg/L). A '---' indicates that a Standard has not been adopted or information is currently unavailable. A '(n)' indicates that a detailed note of explanation is provided.

Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16) Acute (3)	 Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
Polychlorinated Biphenyls, mixed §§ PCB's § Aroclor § Chlophen § Chlorextol § Chlorinated Biphenyl § Chlorinated Diphenyl § Chlorinated Diphenylene § Chloro Biphenyl § Chloro-1,1-Biphenyl § Clophen § Dykanol § Fenclor § Inerteen § Kanechlor § Montar § Noflamol § PCB (DOT) § Phenochlor § Polychlorobiphenyl § Pyralene § Pyranol § Santotherm § Sovol § Therminol FR-1	1336363 or 1336-36-3 NIOSH: TQ 1350000 SAX: PJL750	Carcinogen	---	0.014	31,200	0.000044	N/A	1
Arsenic, inorganic (9) §§ As § Arsenicals § Arsenic-75 § Arsenic Black § Colloidal Arsenic § Grey Arsenic § Metallic Arsenic	7440382 or 7440-38-2 NIOSH: CG 0525000 SAX: ARA750	Carcinogen	360	190	44	0.018	N/A	3.18
Asbestos, Chrysotile §§ --- § 7-45 Asbestos § Asbestos (ACGIH) § Asbestos, White Dot § Avibest C § Calidria RG 100 § Calidria RG 144 § Calidria RG 600 § Cassiar AK § Chrysotile Asbestos § Chrysotile (DOT) § Hooker Number 1 Chrysotile Asbestos § Metaxite § NCI C61223A § Plastibest 20 § Serpentine § Serpentine Chrysotile § Sylodex § White Asbestos	12001295 or 12001-29-5 NIOSH: CI 6478500 SAX: ARM268	Carcinogen	---	---	---	7,000,000 fibers/liter	N/A	---
Asbestos, Actinolite §§ --- § Asbestos (ACGIH) § Actinolite Asbestos	77536664 or 77536-66-4 NIOSH: CI 6476000 SAX: ARM260	Carcinogen	---	---	---	7,000,000 fibers/liter	N/A	---
Asbestos, Amosite §§ --- § Amosite Asbestos § Asbestos (ACGIH) § Mysorite § NCI C60253A	12172735 or 12172-73-5 NIOSH: CI 6477000 SAX: ARM262	Carcinogen	---	---	---	7,000,000 fibers/liter	N/A	---
Asbestos, Anthophyllite §§ --- § Anthophylite § Asbestos (ACGIH) § Azbolen Asbestos § Ferroanthophyllite	77536675 or 77536-67-5 NIOSH: CI 6478000 SAX: ARM264	Carcinogen	---	---	---	7,000,000 fibers/liter	N/A	---
Asbestos §§ --- § Amianthus § Amosite (Obs.) § Amphibole § Asbestos Fiber § Fibrous Gruneite § NCI C08991 § Serpentine	1332214 or 1332-21-4 NIOSH: CI 6475000 SAX: ARM 250	Carcinogen	---	---	---	7,000,000 fibers/liter	N/A	---
Asbestos, Crocidolite §§ --- § Amorphous Crocidolite Asbestos § Asbestos (ACGIH) § Blue Asbestos (DOT) § Crocidolite Asbestos § NCI C09007 § Crocidolite (DOT) § Fibrous Crocidolite Asbestos	12001284 or 12001-28-4 NIOSH: CI 6479000 SAX: ARM275	Carcinogen	---	---	---	7,000,000 fibers/liter	N/A	---
Asbestos, Tremolite §§ --- § Asbestos (ACGIH) § Fibrous Tremolite § NCI C08991 § Tremolite Asbestos	77536686 or 77536-68-6 NIOSH: 6560000 SAX: ARM280	Carcinogen	---	---	---	7,000,000 fibers/liter	N/A	---

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Atrazine §§ --- § Aatrex § Aktikon § Atrasine § Atred § Candex § Crisatrina § Crisazine § Cyazin § Fenamin § Fenamine § Zeaphos § Fenatrol § Gesaprim § Hungazin § Inakor § Primatol § Malermais § Radazin § Radizine § Shell Atrazine herbicide § Strazine § Triazine A 1294 § Vectal § Weedex A § Wonuk § Zeazin § Zeazine § SHA 080803 § 1-Chloro-3-Ethylamino-5-Isopropylamino-2,4,6-Triazine § s-Triazine, 2-Chloro-4-Ethylamino-6-Isopropylamino- § 2-Chloro-4-Ethylamino-6-Isopropylamino-s-Triazine § 6-Chloro-N-Ethyl-N'-(1-Methylethyl)-1,3,5-Triazine-2,4-Diamine	1912249 or 1912-24-9 NIOSH: XY 5600000 SAX: PMC325	Toxin	—	—	—	3	0.1	0.6
Barium (9) §§ Ba	7440393 or 7440-39-3 NIOSH: CA 8370000 SAX: BAH250	Toxin	—	—	—	1,000	2	5
Benzene §§ --- § Phene § Benzol § Benzolene § Pyrobenzol § Carbon Oil § SHA 109301 § Coal Naphtha § Motor Benzol § Phenyl hydride § Cyclohexatriene § Caswell Number 077 § RCRA Waste Number U019 § EPA Pesticide Chemical Code 008801 § NCI C55276	71432 or 71-43-2 NIOSH: CY 1400000 SAX: BBL250	Carcinogen	—	—	5.2	1.2	N/A	0.5
Benzidine §§ --- § p,p'-Bianiline § 4,4'-Bianiline § 4,4'-Biphenyldiamine § p,p'-Diaminobiphenyl § 4,4'-Diaminodiphenyl § RCRA Waste Number U021 § 4,4'-Biphenylenediamine § 4,4'-Diphenylenediamine § Biphenyl, 4,4'-Diamino- § 4,4'-Diamino-1,1'-Biphenyl § (1,1'-Biphenyl)-4,4'-Diamine § NCI C03361	92875 or 92-87-5 NIOSH: DC 9625000 SAX: BBX000	Carcinogen	—	—	87.5	0.00012	N/A	20
Benz[a]anthracene (PAH) §§ --- § Tetraphene § Benzanthracene § Benzoanthracene § Naphthanthracene § 1,2-Benzanthrene § Benz(a)Anthracene § Benzo[a]Anthracene § Benzo(a)Anthracene § 1,2-Benzanthracene § Benzo(b)Phenanthrene § 1,2-Benzoanthracene § Benzanthracene, 1,2- § 1,2-Benz(a)Anthracene § 2,3-Benzophenanthrene § RCRA Waste Number U018	56553 or 56-55-3 NIOSH: CV 9275000 SAX: BBC250	Carcinogen	—	—	30	0.0044	N/A	0.25
Benzo[b]Fluoranthene (PAH) §§ --- § B(b)F § Benzo(b)Fluoranthene § Benzo(e)Fluoranthene § Benzo[e]Fluoranthene § 2,3-Benzfluoranthene § 3,4-Benzfluoranthene § 3,4-Benzofluoranthene § 2,3-Benzofluoranthene § 2,3-Benzofluoranthrene § Benz(e)Acephenanthrylene § Benz[e]Acephenanthrylene § 3,4-Benz(e)Acephenanthrylene	205992 or 205-99-2 NIOSH: CU 1400000 SAX: BAW250	Carcinogen	—	—	30	0.0044	N/A	0.25

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Benzo[k]Fluoranthene (PAH) §§ --- § Benzo(k)Fluoranthene § 8,9-Benzofluoranthene § Dibenzo(b,jk)Fluorene § 2,3,1'8'-Binaphthylene § 11,12-Benzofluoranthene § 11,12-Benzo(k)Fluoranthene	207089 or 207-08-9 NIOSH: DF 6350000 SAX: BCJ750	Carcinogen	—	—	30	0.0044	N/A	0.25
Benzo(g,h,i)perylene (PAH) §§ 1,12-Benzoperylene § 1,12-Benzperylene § Benzo(ghi)Perylene	191242 or 191-24-2 NIOSH: DJ 6200500 SAX: BCR000	Toxin	—	—	30	—	0.076	10
Benzo[a]Pyrene (PAH) §§ --- § BaP § 3,4-BP § Benz(a)Pyrene § Benzo-a-Pyrene § 3,4-Benzpyrene § 6,7-Benzopyrene § 3,4-Benzopyrene § 3,4-Benz(a)Pyrene § Benzo(d,e,f)Chrysene § Benzo(def)Chrysene	50328 or 50-32-8 NIOSH: DJ 3675000 SAX: BCS750	Carcinogen	—	—	30	0.0044	N/A	0.2
Beryllium (9) §§ Be § Beryllium-9 § Glucinum § RCRA Waste Number P015	7440417 or 7440-41-7 NIOSH: DS 1750000 SAX: BFO750	Carcinogen	—	—	19	4.0	N/A	1
Beta-Chloronaphthalene §§ 2-Chloronaphthalene § ß-Chloronaphthalene § Naphthalene, 2-Chloro- § RCRA Waste Number U047	91587 or 91-58-7 NIOSH: QJ 2275000 SAX: CJA000	Toxin	—	—	202	1,700	0.94	10
Beta Emitters (10) §§ --- § Gross Beta	12587472 or 12587-47-2 NIOSH: --- SAX: ---	Carcinogen / Radioactive	—	—	—	4 mrem ede/yr	N/A	—
Bis(2-Chloroethoxy)Methane §§ --- § Bis(ß-Chloroethyl)Formal	111911 or 111-91-1 NIOSH: PA 3675000 SAX: BID750	Toxin	—	—	0.64	—	0.5	—
Bis(2-Chloroisopropyl) Ether §§ --- § DCIP § NCI C50044 § RCRA Waste Number U027 § Dichlorodiisopropyl Ether § 2,2'-Oxybis(1-Chloropropane) § Bis (2-Chloroisopropyl) ether § Propane, 2,2'-Oxybis(2-Chloro- § Propane, 2,2'-Oxybis[1-Chloro- § 2,2'-Dichlorodiisopropyl Ether § Dichlorodiisopropyl Ether (DOT) § Bis(2-Chloro-1-Methylethyl) Ether	108601 or 108-60-1 NIOSH: KN 1750000 SAX: BII250	Toxin	—	—	2.47	1,400	0.8	10
Bis(Chloroethyl)Ether §§ --- § BCEE § DCEE § Clorex § Chlorex § Chloroethyl Ether § Dichloroethyl Ether § Dichloroethyl Oxide § RCRA Waste Number U025 § Bis(Chloroethyl) Ether § Di(2-Chloroethyl) Ether § Bis (Chloroethyl) Ether § Bis(2-Chloroethyl) Ether § Bis(ß-Chloroethyl) Ether § ß,ß'-Dichloroethyl Ether § 2,2'-Dichloroethyl Ether § Bis (2-Chloroethyl) Ether § 1,1'-Oxybis(2-Chloro)Ethane § Ethane, 1,1'-Oxybis[2-Chloro- § beta,beta'-Dichloroethyl Ether § 1-Chloro-2-(beta-Chloroethoxy)Ethane	111444 or 111-44-4 NIOSH: KN 0875000 SAX: BIC750	Carcinogen	—	—	6.9	0.031	N/A	10

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Bis(Chloromethyl)Ether §§ --- § BCME § bis-CME § Chloromethyl Ether § Oxybis(Chloromethane) § RCRA Waste Number P016 § Bis (Chloromethyl) Ether § sym-Dichlorodimethyl Ether § 1,1'-Dichlorodimethyl Ether § Dimethyl-1,1'-Dichloroether § Chloro(Chloromethoxy)Methane	542881 or 542-88-1 NIOSH: 1575000 SAX: BIK000	Carcinogen	—	—	0.63	0.00016	N/A	10
Bromodichloromethane (HM) §§ --- § BDCM § NCI C55243 § Dichlorobromomethane § Methane, bromodichloro- § Dichloromonobromomethane § Monobromodichloromethane	75274 or 75-27-4 NIOSH: PA 5310000 SAX: BND500	Carcinogen	—	—	3.75	0.56	N/A	0.5
p-Bromodiphenyl Ether §§ --- § p-Bromodiphenyl Ether § 4-Bromophenoxybenzene § 4-Bromodiphenyl Ether § 1-Bromo-4-Phenoxybenzene § p-Bromophenylphenyl Ether § 4-Bromophenyl Phenyl Ether § Benzene, 1-Bromo-4-Phenoxy-	101553 or 101-55-3 NIOSH: --- SAX: ---	Toxin with BCF >300	—	—	1,640	—	N/A	10
Bromoform (HM) §§ Tribromomethane § NCI C55130 § Methane, Tribromo- § Methenyl Tribromide § RCRA Waste Number U225	75252 or 75-25-2 NIOSH: PB 5600000 SAX: BNL000	Carcinogen	—	—	3.75	4.3	N/A	0.5
Bromomethane (HM) §§ Methyl Bromide § EDCO § Celfume § Dowfume § Methogas § SHA 053201 § Brom-O-Sol § Brom-O-Gas § Terr-O-Gas § Halon 1001 § Terr-O-Cide § Bromo-O-Gas § Bromo Methane § Methylbromide § Methyl Bromide § Methane, Bromo- § Monobromomethane § RCRA Waste Number U029	74839 or 74-83-9 NIOSH: PA 4900000 SAX: BNM500	Toxin	—	—	3.75	48	0.11	0.5
Butyl Benzyl Phthalate §§ --- § BBP § Sicol 160 § Unimoll BB § Palatinol BB § Santicizer 160 § Butylbenzylphthalate § Butylbenzyl Phthalate § Benzyl Butyl Phthalate § n-Benzyl Butyl Phthalate § Benzyl n-Butyl Phthalate § Phthalic Acid, Benzyl Butyl Ester § Butyl Phenylmethyl 1,2-Benzenedicarboxylate § 1,2-Benzenedicarboxylic Acid, Butyl Phenylmethyl Ester § NCI C54375	85687 or 85-68-7 NIOSH: TH 9990000 SAX: BEC500	Toxin with BCF >300	—	—	414	3,000	N/A	10
Cadmium (9) §§ Cd § C.I. 77180 § Colloidal Cadmium	7440439 or 7440-43-9 NIOSH: EU 9800000 SAX: CAD000	Toxin	3.9 @ 100 mg/l hardness (12)	1.1 @ 100 mg/l hardness (12)	64	5	0.1	0.1
Carbofuran §§ --- § Yaltox § Furadan § Furadan § Curaterr § Furacarb § SHA 090601 § Niagra 10242 § 2,2-Dimethyl-7-Coumaranyl N-Methylcarbamate § 2,2-Dimethyl-2,3-Dihydro-7-Benzofuranyl N-Methylcarbamate § Carbamic Acid, Methyl-, 2,3-Dihydro-2,2-Dimethyl-7-Benzofuranyl Ester	1563662 or 1563-66-2 NIOSH: FB 9450000 SAX: FPE000	Toxin	—	—	—	40	1	1

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Carbon Tetrachloride §§ --- § R 10 § Univerm § Freon 10 § Tetrasol § Fasciolin § Flukoids § Necatorina § Necatorine § Halon 104 § Teraform § Carbon Tet § Benzinoform § Carbon Chloride § Perchloromethane § Tetrachloromethane § Methane Tetrachloroide § RCRA Waste Number U211	56235 or 56-23-5 NIOSH: FG 4900000 SAX: CBY000	Carcinogen	---	---	18.75	0.25	N/A	0.5
Cesium (10) §§ Cs	Cesium 134 13967709 or 13967-70-9 NIOSH: --- SAX: ---	Carcinogen / Radioactive	---	---	---	4 mrem ede/yr	N/A	---
Cesium (10) §§ Cs	Cesium 137 10045973 or 10045-97-3 NIOSH: --- SAX: ---	Carcinogen / Radioactive	---	---	---	4 mrem ede/yr	N/A	---
Cesium (10) §§ Cs	Cesium 137 12587472 or 12587-47-2 NIOSH: --- SAX: ---	Carcinogen / Radioactive	---	---	---	4 mrem ede/yr	N/A	---
Cesium (10) §§ Cs	Cesium 144 --- NIOSH: --- SAX: ---	Carcinogen / Radioactive	---	---	---	4 mrem ede/yr	N/A	---
Chlordane §§ --- § Belt § Niran § Dowchlor § Chlorotox § Chlordan § Clordano § Chlor Kil § Toxichlor § Octa-Klor § Ortho-Klor § SHA 058201 § Gold Crest C-100 § Chlordane, Technical § RCRA Waste Number U036 § Octachloro-4,7-Methanohydroindane § Octachlorodihydrodicyclopentadiene § 1,2,4,5,6,7,8,8-Octachloro-3a,4,7,7a-Hexahydro § Octachloro-4,7-Methanotetrahydroindane-4,7-Methylene Indane § 4,7-Methanoindan, 1,2,4,5,6,7,8,8-Octachloro-3a,4,7,7a-tetrahydro- § 1,2,4,5,6,7,8,8-Octachloro-2,3,3a,4,7,7a-Hexahydro-4,7-Methano-Indene § 4,7-Methano-1H-Indene 1,2,4,5,6,7,8,8-Octachloro-2,3,3a,4,7,7a-Hexahydro-	57749 or 57-74-9 NIOSH: PB 9800000 SAX: CDR750	Carcinogen	1.2	0.0043	14,100	0.00057	N/A	0.4
alpha-Chlordane §§ --- § α-Chlordane § cis-Chlordan § cis-Chlordane § α(cis)-Chlordane § Chlordane, cis-Isomer	5103719 or 5103-71-9 NIOSH: PB 9705000 SAX: CDR675	Carcinogen	1.2	0.0043	14,100	0.00057	N/A	0.4
gamma-Chlordane §§ --- § Chlordane, beta-Isomer	5103742 or 5103-74-2 NIOSH: --- SAX: ---	Carcinogen	1.2	0.0043	14,100	0.00057	N/A	0.4

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16) Acute (3)	 Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
trans-Nonachlor (Chlordane component) §§ --- § Chlordane, trans-Isomer	39765805 or 39765-80-5 NIOSH: --- SAX: ---	Carcinogen	1.2	0.0043	14,100	0.00057	N/A	0.4
Chlordde §§ ---	16887006 or 16887-00-6 NIOSH: --- SAX: ---	Narrative (18)	860,000	230,000	—	—	N/A	1,000
Chlorine, total residual §§ Cl § Bertholite § Chlorine, molecular § Molecular Chlorine	7782505 or 7782-50-5 NIOSH: FO 2100000 SAX: CDV750	Toxin	19	11	—	—	100	—
p-Chloro-m-Cresol §§--- § PCMC § Parol § Aptal § Baktol § Baktolan § Otafact § Raschit § Rasen-Anicon § Parmetol § Candasetpic § Chlorocresol § Preventol CMK § RCRA Waste Number U039 § Parachloremeta Cresol § 4-Chloro-3-methylphenol § 2-Chloro-Hydroxytoluene § Phenol, 4-Chloro-3-methyl- § Chlorophenol, 4-, methyl, 3-	59507 or 59-50-7 NIOSH: GO 7100000 SAX: CFE250	Harmful	—	—	—	3,000	N/A	20
Chlorobenzene §§ Monochlorobenzene § MCB § Chlorobenzol § Chlorbenzene § Phenyl Chloride § Benzene Chloride § Benzene, Chloro- § Monochlorbenzene § RCRA Waste Number U037 § NCI C54886	108907 or 108-90-7 NIOSH: CZ 0175000 SAX: BBM750	Harmful	—	—	10.3	20	N/A	0.5
2-Chloroethyl Vinyl Ether §§ --- § (2-Chloroethoxy)Ethene § RCRA Waste Number U042 § Vinyl B-Chloroethyl Ether § Vinyl 2-Chloroethyl Ether	110758 or 110-75-8 NIOSH: KN 6300000 SAX: CHJ250	Carcinogen	—	—	0.557	—	N/A	—
Chloroform (HM) §§ Trichloromethane § TCM § Freon 20 § Trichloroform § R-20 Refrigerant § Methenyl Chloride § Formyl Trichloride § Methyl Trichloride § Methane Trichloride § Methane, Trichloro- § Metheny1 Trichloride § RCRA Waste Number U044 § NCI C02686	67663 or 67-66-3 NIOSH: FS 9100000 SAX: CHJ500	Carcinogen	—	—	3.75	5.7	N/A	0.5
Chloroethane §§ --- § Aethylis § Aethylis Chloridum § Anodynon § Chelen § Chlorethyl § Chloridum § Chloroethane § Chloryl § Chloryl Anesthetic § Ethyl Chloride § Ether Chloratus § Ether Hydrochloric § Ether Muriatic § Hydrochloric Ether § Kelene § Monochlorethane § Muriatic Ether § Narcotile § NCI C06224	75003 or 75-00-3 NIOSH: KH 7525000 SAX: EHH000	Toxin	—	—	—	—	0.52	—
2-Chlorophenol §§ --- § o-Chlorophenol § Chlorophenol, 2- § Phenol, 2-Chloro- § Phenol, o-Chloro- § RCRA Waste Number U048	95578 or 95-57-8 NIOSH: SK 2625000 SAX: CJK250	Harmful	—	—	134	0.1	N/A	10

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
4-Chlorophenyl Phenyl Ether §§ --- §	7005723 or 7005-72-3 NIOSH: --- SAX: ---	Toxin with BCF >300	—	—	1,200	—	N/A	—
Chlorpyrifos §§ --- § Ethion § Brodan § Etadex § Dursban § Lorsban § Pyrinex § NA 2783 § Piridane § DowCo 179 § SHA 059101 § Ethion, dry § Chlorothalonil § Chlorpyrifos-Ethyl § O,O-Diethyl O-3,5,6-Trichloro-2-Pyridyl Phosphorothioate § Phosphorothioic Acid, O,O-Diethyl O-(3,5,6-Trichloro-2-Pyridyl) Ester 1	2921882 or 2921-88-2 NIOSH: TF 6300000 SAX: DYE000	Toxin	0.083	0.041	—	—	0.025	1
Chromium (9) §§ Cr § Chrome	7440473 or 7440-47-3 NIOSH: GB 4200000 SAX: CM1750	Toxin	—	—	—	100	0.1	1
Chromium, trivalent (9) §§ Chromium (III)	16065831 or 16065-83-1 NIOSH: --- SAX: ---	Toxin	1,700 @ 100 mg/l hardness (12)	210 @ 100 mg/l hardness (12)	16	100	—	—
Chromium, hexavalent (9) §§ Chromium (VI)	18540299 or 18540-29-9 NIOSH: --- SAX: ---	Toxin	16	11	16	100	5	5
Chrysene (PAH) §§ --- § Benz(a)Phenanthrene § Benzo(a)Phenanthrene § 1,2-Benzphenanthrene § 1,2-Benzophenanthrene § RCRA Waste Number U050 § 1,2,5,6-Dibenzonaphthalene	218019 or 218-01-9 NIOSH: GC0700000 SAX: CML810	Carcinogen	—	—	30	0.0044	N/A	0.25
Coliform, fecal (13) (18) §§ ---	N/A	Narrative - Surface Toxin - Ground	—	—	—	—, Surface 1 per 100mL, Ground	—, Surface 1 per 100mL, Ground	1 per 100mL, Surface 1 per 100mL, Ground
Color (13) §§ ---	N/A	Harmful	—	—	—	—	N/A	5 UNITS
Conductance, specific (21) §§ ---	N/A	Narrative	—	—	—		N/A	—
Copper (9) §§ Cu § Alibri Natural Copper § ANAC 110 § Arwood Copper § Bronze Powder § CDA 101 § CDA 102 § CDA 110 § CDA 122 § C.I. 77400 § C.I. Pigment Metal 2 § Copper Bronze § 1721 Gold § Gold Bronze § Kafar Copper § M1 (Copper) § M2 (Copper) § OFHC C_u § Raney Copper	7440508 or 7440-50-8 NIOSH: GL 5325000 SAX: CN1000	Toxin	18 @ 100 mg/l hardness (12)	12 @ 100 mg/l hardness (12)	36	1,000	0.5	1

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			Acute (3)	Chronic (4)				
Cyanide, total §§ --- § Cyanide § Isocyanide § Cyanide Ion § Free Cyanide § Cyanide Anion § Carbon Nitride Ion (CN^{1-}) § RCRA Waste Number P030 § Cyanide, weak acid dissociable (WAD) § Cyanides, includes soluble salts and complexes	57125 or 57-12-5 NIOSH: GS 7175000 SAX: COI500	Toxin	22	5.2	1	200	5	5
Dalapon §§ --- § Dalpon § Unipon § Dowpon § Radapon § Revenge § Basinex § Ded Weed § Dalacide § Gramevin § Crisapon § Dalpon Sodium § Sodium Dalapon § 2,2-Dichloropropionic Acid § SHA 28902, for sodium salt § SHA 28901, for dalapon only § Propionic Acid, 2,2-Dichloro- § Sodium 2,2-Dichloropropionate § α-Dichloropropionic Acid § α,α-Dichloropropionic Acid § alpha-alpha-Dichloropropionic Acid	75990 or 75-99-0 NIOSH: UF 0690000 SAX: DGI400	Toxin	---	---	---	200	1.3	3
Dalapon, sodium salt §§ --- § Dalpon § Unipon § Dowpon § Radapon § Revenge § Basinex § Ded-Weed § Dalacide § Gramevin § Crisapon § Dalpon Sodium § Sodium Dalapon § 2,2-Dichloropropionic Acid § SHA 28902, for sodium salt § SHA 28901, for dalapon only § Propionic Acid, 2,2-Dichloro- § Sodium 2,2-Dichloropropionate § alpha-alpha-Dichloropropionic Acid	127208 or 127-20-8 NIOSH: UF 1225000 SAX: DGI600	Toxin	---	---	---	200	1.3	3
Demeton §§ --- § Systox § Bay 10756 § Bayer 8169 § Demox § Diethoxy Thiophosphoric Acid Ester of 2-Ethylmercaptoethanol § O,O-Diethyl 2-Ethylmercaptoethyl Thiophosphate § O,O-Diethyl O(and S)-2-(Ethyl-Thio)Ethyl Phosphorothioate Mixture § E 1059 § ENT 17,295 § Mercaptophos § Systemox § Systox § ULV § Demeton-O + Demeton-S	8065483 or 8065-48-3 NIOSH: TF 3150000 SAX: DAO600	Toxin	---	0.1	---	---	---	---
Di(2-Ethylhexyl)Adipate §§ Hexanedioic Acid § DEHA § BEHA § Bisoflex DOA § Effemoll DOA § Ergoplast AdDO § Flexol A 26 § PX-238 § Reomol DOA § Vestinol OA § Wickenol 158 § Kodaflex DOA § Monoplex DOA § NCI C54386 § Octyl Adipate § Dioctyl Adipate § Di 2-Ethylhexyl Adipate § Di (2-Ethylhexyl) Adipate § Bis(2-Ethylhexyl) Adipate § Adipic Acid, Bis(2-Ethylhexyl) Ester § Hexanedioic Acid, Bis(2-Ethylhexyl) Ester	103231 or 103-23-1 NIOSH: AU 9700000 SAX: AEO000	Toxin	---	---	---	400	0.5	6
Di(2-Ethylhexyl)Phthalate (PAE) §§ Bis(2-Ethylhexyl)Phthalate § BEHP § DEHP § Octoil § Fleximel § Flexol DOP § Kodaflex DOP § Ethylhexyl Phthalate § Diethylhexyl Phthalate § 2-Ethylhexyl Phthalate § Di(Ethylhexyl)phthalate § Di(2-Ethylhexyl)phthalate § Bis (2-Ethylhexyl) Phthalate § Bis(2-Ethylhexyl)-1,2-Benzene-Dicarboxylate § 1,2-Benzenedicarboxylic Acid, Bis(2-Ethylhexyl)Ester	117817 or 117-81-7 NIOSH: TI 0350000 SAX: *BIS000*	Carcinogen	---	---	130	1.8	N/A	6

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			Acute (3)	Chronic (4)				
n-Dioctyl Phthalate §§ --- § DNOP § PX-138 § Vinicizer 85 § Dinopol NOP § n-Octyl Phthalate § Octyl Phthalate § Dioctyl Phthalate § Di-n-Octyl Phthalate § Di-sec-Octyl Phthalate § RCRA Waste Number U107 § 1,2-Benzenedicarboxylic Acid, Dioctyl Ester	117840 or 117-84-0 NIOSH: TI 1925000 SAX: DVL600	Carcinogen	---	---	---	---	N/A	6
Dibenz[a,h]Anthracene (PAH) §§ --- § DBA § DB(a,h)A § Dibenz(a,h)Anthracene § RCRA Waste Number U063 § Dibenzo(a,h)anthracene § 1,2:5,6-Benzanthracene § Dibenzo (a,h) Anthracene § 1,2,5,6-Dibenzanthracene § 1,2:5,6-Dibenz(a)Anthracene	53703 or 53-70-3 NIOSH: HN 2625000 SAX: DCT400	Carcinogen	---	---	30	0.0044	N/A	0.5
1,2-Dibromo-3-Chloropropane §§ --- § DBCP § Fumagon § Fumazone § NCI C00500 § Nemabrom § Nemafume § Nemagon § Nemagone § Nemagone Soil Fumigant § Nemanax § Nemapaz § Nemaset § Nematocide § Nematox § OS 1897 § OXY DBCP § SD 1897 § Caswell Number 287 § Dibromochloropropane § RCRA Waste Number U066 § 1-Chloro-2,3-Dibromopropane § Propane, 1,2-Dibromo-3-Chloro- § EPA Pesticide Chemical Code 011301	96128 or 96-12-8 NIOSH: TX 8750000 SAX: DDL800	Carcinogen	---	---	---	0.2	N/A	0.05
Dibromochloromethane (BM) §§ --- § CDBM § NCI C55254 § Chlorodibromomethane § Methane, Dibromochloro- § Dibromomonochloromethane § Monochlorodibromomethane	124481 or 124-48-1 NIOSH: PA 6360000 SAX: CFK500	Carcinogen	---	---	3.75	0.41	N/A	0.5
Dibutyl Phthalate §§ --- § DPB § Celluflex DPB § Elatol § Hexaplas M/B § Palatinol C § Polycizer DBP § PX 104 § Staflex DBP § Witcizer § SHA 028001 § Butylphthalate § N-Butylphthalate § Dibutyl Phthalate § Di-n-Butylphthalate § Di-n-Butylphthalate § Dibutyl-o-Phthalate § Di-n-Butyl Phthalate § RCRA Waste Number U069 § Phthalic Acid Dibutyl Ester § Dibutyl 1,2-Benzene Dicarboxylate § 1,2-Benzenedicarboxylic Acid Dibutyl Ester § 1,2-Benzenedicarboxylic Acid, Dibutyl Ester § Benzene-o-Dicarboxylic Acid Di-n-Butyl Ester	84742 or 84-74-2 NIOSH: TI 0875000 SAX: DEH200	Toxin	---	---	89	2,700	0.25	0.25
1,2-Dichlorobenzene §§ --- § DCB § ODB § ODCB § Dizene § Cloroben § Chloroben § Chloroden § Termitkil § Dilann DB § Dowtherm E § Dilann DB § o-Dichlorobenzene § Orthodichlorobenzene § ortho-Dichlorobenzene § Special Termite Fluid § Benzene, 1,2-Dichloro- § RCRA Waste Number U070	95501 or 95-50-1 NIOSH: CZ 4500000 SAX: DEP600	Toxin	---	---	55.6	600	0.02	10
1,3-Dichlorobenzene §§ --- § M-Dichlorobenzene § m-Dichlorobenzene § meta-Dichlorobenzene § Dichlorobenzene, 1,3- § Benzene, 1,3-Dichloro-	541731 or 541-73-1 NIOSH: CZ 4499000 SAX: DEP699	Toxin	---	---	55.6	400	0.006	10

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
1,4-Dichlorobenzene §§ --- § PDB § PDCB § NCI C54955 § Evola § Paradi § Paradow § Persia-Perazol § Paracide § Parazene § Paramoth § Santochlor § Paranuggets § di-Chloricide § Para Chrystals § p-Dichlorobenzene § Caswell Number 632 § Paradichlorobenzene § para-Dichlorobenzene § Benzene, 1,4-Dichloro- § RCRA Waste Number U070 § RCRA Waste Number U071 § RCRA Waste Number U072 § p-Chlorophenyl Chloride § EPA Pesticide Chemical Code 061501	106467 or 106-46-7 NIOSH: CZ 4550000 SAX: DEP800	Toxin	---	---	55.6	75	0.006	10
3,3'-Dichlorobenzidine §§ --- § DCB § C.I. 23060 § Curithane C126 § Dichlorobenzidine § o,o'-Dichlorobenzidine § Dichlorobenzidine Base § Benzidine, 3,3'-Dichloro- § RCRA Waste Number U073 § 3,3'-Dichloro-4,4'-Diaminodiphenyl § 3,3'-Dichloro-(1,1'-Biphenyl)-4,4'-Diamine § 1,1'-Biphenyl-4,4'-Diamine, 3,3'-Dichloro-	91941 or 91-94-1 NIOSH: DD 0524000 SAX: DEQ400	Carcinogen	---	---	312	0.039	N/A	20
Dichlorodifluoromethane (HM) §§ --- § F 12 § R 12 § FC 12 § Halon § CFC-12 § Arcton 6 § Electro-CF 12 § Eskimon 12 § Frigen 12 § Genuon 12 § Isceon 122 § Kaiser Chemicals 12 § Ledon 12 § Ucon 12 § Freon 12 § Propellant 12 § Refrigerant 12 § Fluorcarbon-12 § RCRA Waste Number U075 § Dulluorodichloromethane § Methane, dichlorodifluoro-	75718 or 75-71-8 NIOSH: PA 8200000 SAX: DFA600	Toxin	---	---	3.75	6,900	0.05	0.5
p,p'-Dichlorodiphenyl Dichloroethane §§ --- § TDE § DDD § Dilene § NCI C00475 § Rothane § Rhothane § 4,4'-DDD § p,p'-DDD § p,p'-TDE § 4',4'-D-DDD § RCRA Waste Number U060 § Tetrachlorodiphenylethane § Dichlorodiphenyldichloroethane § Dichlorodiphenyl Dichloroethane § 2,2-bis (4-Chlorophenyl)-1,1-Dichloroethane § 1,1-Dichloro-2,2-bis(p-Chlorophenyl) Ethane § 1,1-bis(4-Chlorophenyl)-2,2-Dichloroethane § 2,2-bis(p-Chlorophenyl)-1,1-Dichloroethane § Benzene, 1,1'(2,2-Dichloroethylidene)Bis[4-Chloro-	72548 or 72-54-8 NIOSH: KI 0700000 SAX: BIM500	Carcinogen	---	---	53,600	0.00083	N/A	0.01
p,p'-Dichlorodiphenyldichloroethylene §§ --- § DDE § p,p'-DDE § 4,4'-DDE § NCI C00555 § Dichlorodiphenyldichloroethylene § Dichlorodiphenyldichloroethylene, p,p'- § 2,2'-bis(4-Chlorophenyl)-1,1-Dichloroethylene § 1,1'-(Dichloroethenylidene)bis(4-Chlorobenzene) § 2,2'-bis(p-Chlorophenyl)-1,1-Dichloroethylene § Benzene, 1,1'-(DichloroethenylideneBis[4-Chloro-	72559 or 72-55-9 NIOSH: KV 9450000 SAX: BIM750	Carcinogen	---	---	53,600	0.00059	N/A	0.01

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
p,p'-Dichlorodiphenyltrichloroethane §§ --- § DDT § 4,4'-DDT § Agritan § Anoflex § Arkotine § Azotox § Bosan Supra § Bovidermol § Chlorophenothan § Chlorophenothane § Chlorophenotoxum § Citox § Clofenotane § Dedelo § § Chlorophenothane § Diphenyltrichloroethane § Dichlorodiphenyltrichloroethane § 4,4'-Dichlorodiphenyltrichloroethane § Dichlorodiphenyltrichloroethane, p,p'- § 1,1,1-Trichloro-2,2,-bis(p-Chlorophenyl) Ethane § 1,1,1-Trichloro-2,2,-bis(p-Chlorophenyl)Ethane § 1,1,1-Trichloro-2,2,-Di(4-Chlorophenyl)-Ethane § 1,1-Bis-(p-Chlorophenyl)-2,2,2-Trichloroethane § 2,2-Bis-(p-Chlorophenyl)-1,1,1-Trichloroethane § Benzene, 1,1'-(2,2,2-Trichloroethylidene)Bis(4-Chloro-) § alpha,alpha-Bis(p-Chlorophenyl)-beta,beta,beta-Trichlorethane	50293 or 50-29-3 NIOSH: KJ 3325000 SAX: DAD200	Carcinogen	0.55	0.001	53,600	0.00059	N/A	0.06
1,1-Dichloroethane §§ Vinylidene Chloride § VDC § 1,1-DCE § NCI C04535 § 1,1-Dichloroethene § Vinylidene Chloride § 1,1-Dichloroethylene § Ethene, 1,1-Dichloro- § Vinylidene Dichloride § Ethylidene Dichloride § Dichloroethylene, 1,1- § RCRA Waste Number U076 § Ethylene, 1,1-Dichloro- § Chlorinated Hydrochlororic Ether	75343 or 75-34-3 NIOSH: KI 0175000 SAX: DFF809	Carcinogen	—	—	—	—	N/A	0.5
1,2-Dichloroethane §§ --- § EDC § Brocide § 1,2-DCE § NCI C00511 § Dutch Oil § Dutch Liquid § Dichloremulsion § Di-Chlor-Mulsion § 1,2-Bichlorethane § 1,2-Dichlorethane § Ethane Dichloride § Ethylene Chloride § 1,2-Bichloroethane § Ethylene Dichloride § Dichloroethane, 1,2- § Ethane, 1,2-Dichloro- § RCRA Waste Number U077 § 1,2-Ethylene Dichloride § alpha,beta-Dichloroethane	107062 or 107-06-2 NIOSH: KI 0525000 SAX: DFF900	Carcinogen	—	—	1.2	0.38	N/A	0.5
1,1-Dichloroethene §§ Vinylidene Chloride § VDC § 1,1-DCE § Sconatex § NCI C54262 § 1,1-Dichloroethane § 1,1-Dichloroethene § Vinylidene Chloride § 1,1-Dichloroethylene § Vinylidene Dichloride § Ethene, 1,1-Dichloro- § Vinylidene Chloride II § RCRA Waste Number U078 § Dichloroethylene, 1,1- § Ethylene, 1,1-Dichloro-	75354 or 75-35-4 NIOSH: KV 9275000 SAX: DFI000	Carcinogen	—	—	5.6	0.57	N/A	0.5
cis-1,2-Dichloroethylene §§ --- § 1,2-Dichloroethylene § cis-Dichloroethylene § cis-1,2-Dichloroethene § 1,2,cis-Dichloroethylene § ethylene, 1,2-Dichloro-, (z)-	156592 or 156-59-2 NIOSH: KV 9420000 SAX: DFI200	Toxin	—	—	—	70	0.002	0.5
trans-1,2-Dichloroethylene §§ --- § trans-Dichloroethylene § RCRA Waste Number U079 § trans-1,2-Dichloroethane § trans-1,2-Dichloroethene § Dichloroethylene, trans- § trans-Acetylene Dichloride § 1,2-trans-Dichloroethylene § Ethene, 1,2-Dichloro-, (E)- § 1,2-Dichloroethylene, trans-	156605 or 156-60-5 NIOSH: KV 9400000 SAX: DFI600	Toxin	—	—	1.58	100	0.05	0.5

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Dichloromethane (HM) §§ Methylene Chloride § R 30 § DCM § Freon 30 § Aerothene MM § NCI C50102 § Solmethine § Methylene Chloride § Methane Dichloride § Methane, Dichloro- § 1,1-Dichloromethane § Methylene Bichloride § Methylene Dichloride	75092 or 75-09-2 NIOSH: PA 8050000 SAX: MDR000	Carcinogen	—	—	0.9	4.7	N/A	0.5
2,4-Dichlorophenol §§ --- § DCP § 2,4-DCP § NCI C55345 § Dichlorophenol, 2,4- § Phenol, 2,4-Dichloro- § RCRA Waste Number U081	120832 or 120-83-2 NIOSH: SK 8575000 SAX: DFX800	Harmful	—	—	40.7	0.3 (5)	N/A	10
2,4-Dichlorophenoxyacetic Acid §§ --- § 2,4-D § Salvo § Phenox § Farmco § Amidox § Miracle § Agrotect § Weedtrol § Herbidal § Ded-Weed § Lawn-Keep § Fernimine § Crop Rider § Aqua-Kleen § Dichlorophenoxyacetic Acid § 2,4-Dichlorophenoxy Acetic Acid § Dichlorophenoxyacetic Acid, 2,4- § Acetic Acid, (2,4-Dichlorophenoxy)- § 2,4-Dichlorophenoxyacetic Acid, salts and esters	94757 or 94-75-7 NIOSH: AG 6825000 SAX: DFY600	Toxin	—	—	—	70	0.2	1
1,2-Dichloropropane §§ --- § NCI C55141 § Propylene Chloride § Propylene Dichloride § Caswell Number 324 § Propane, 1,2-Dichloro- § α,ß-Propylene Dichloride § alpha,beta-Dichloropropane § RCRA Waste Number U083 § EPA Pesticide Chemical Code 029002	78875 or 78-87-5 NIOSH: TX 9625000 SAX: DGF600	Toxin	—	—	4.11	0.52	0.01	0.5
1,3-Dichloropropene §§ Telone II § Telone § NCI C03985 § Vidden D § Dichloropropene § α-Chloroallyl Chloride § γ-Chloroallyl Chloride § Dichloropropene, 1,3- § 1,3-Dichloropropylene § 1,3-Dichloro-2-Propene § Propene, 1,3-Dichloro- § Telone II Soil Fumigant § 3-Chloropropenyl Chloride § alpha,gamma-Dichloropropylene	542756 or 542-75-6 NIOSH: UC 8310000 SAX: CEF750	Toxin	—	—	1.91	10	0.5	0.5
cis-1,3-Dichloropropene §§ Telone II § 1,3-Dichloropropene § 1,3-Dichloropropylene § (Z)-1,3-Dichloropropene § cis-1,3-Dichloropropylene § 1-Propene, 1,3-Dichloro-, (Z)-	10061015 or 10061-01-5 NIOSH: UC 8325000 SAX: DGH200	Toxin	—	—	1.91	10	0.01	0.5
trans-1,3-Dichloropropene §§ Telone II § 1,3-Dichloropropene § 1,3-Dichloropropylene § (E)-1,3-Dichloropropene § trans-1,3-Dichloropropylene § 1-Propene, 1,3-Dichloro-, (E)-	10061026 or 10061-02-6 NIOSH: UC 8320000 SAX: DGH000	Toxin	—	—	1.91	10	0.05	0.5

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Dieldrin §§ --- § Alvit § Quintox § Octalox § Illoxol § Dieldrex § NCI C00124 § Dieldrite § SHA 045001 § RCRA Waste Number P037 § 1,4:5,8-Dimethanonaphthalene § Hexachloroepoxyoctahydro-endo,exo-Dimethanonaphthalene § 3,4,5,6,9,9-Hexachloro-1a,2,2a,3,6,6a,7,7a-Octahydro-2,7:3,6-Dimethanonaphth(2,3-b)Oxirene § 2,7:3,6-Dimethanonaphth(2,3-b)Oxirene, 3,4,5,6,9,9-Hexachloro-1a,2,2a,3,6,6a,7,7a-Octahydro- § 1,2,3,4,10,10-Hexachloro-6,7-Epoxy-1,4,4a,5,6,7,8,8a-Octahydro-Endo,Exo-1,4:5,8-Dimethanonaphthalene	60571 or 60-57-1 NIOSH: IO 1750000 SAX: DHB400	Carcinogen	1.25	0.0019	4,670	0.00014	N/A	0.02
Diethyl Phthalate §§ --- § Anozol § Neantine § Solvanol § NCI C60048 § Placidole E § Ethyl Phthalate § Diethylphthalate § Diethyl-o-Phthalate § RCRA WAste Number U088 § 1,2-Benzenedicarboxylic Acid, Diethyl Ester	84662 or 84-66-2 NIOSH: TI 1050000 SAX: DJX000	Toxin	—	—	73	23,000	0.25	0.25
Dimethyl Phthalate §§ --- § DMP § NTM § ENT 262 § Mipax § Avolin § Fermine § Solvanom § Solvarone § Palatinol M § Methyl Phthalate § Dimethylphthalate § Phthalic Acid, Dimethyl Ester § Dimethyl Benzene-o-Dicarboxylate § Dimethyl 1,2-Benzenedicarboxylate § 1,2-Benzenedicarboxylic Acid, Dimethyl Ester	131113 or 131-11-3 NIOSH: TI 1575000 SAX: DTR200	Toxin	—	—	36	310,000	0.04	0.25
2,4-Dimethylphenol §§ --- § m-Xylenol § 2,4-Xylenol § 4,6-Dimethylphenol § Caswell Number 907A § 2,4-Dimethyl Phenol § Phenol, 2,4-Dimethyl- § RCRA Waste Number U101 § 1-Hydroxy-2,4-Dimethylbenzene § 4-Hydroxy-1,3-Dimethylbenzene § EPA Pesticide Chemical Code 086804	105679 or 105-67-9 NIOSH: ZE 5600000 SAX: XKJ500	Harmful	—	—	93.8	400	N/A	10
4,6-Dinitro-o-Cresol §§ --- § Detal § Sinox § DNOC § Arborol § Capsine § Dinitrol § Trifocide § Antinonin § Winterwash § Dinitrocresol § Dinitro-o-Cresol § Caswell Number 390 § 2,4-Dinitro-o-Cresol § Dinitro-o-Cresol, 4,6- § o-Cresol, 4,6-dinitro- § RCRA Waste Number P047 § 2-Methyl-4,6-Dinitrophenol § 4,6-Dinitro-2-Methylphenol § 2,4-Dinitro-6-Methylphenol § 3,5-Dinitro-2-Hydroxytoluene § Phenol, 2-Methyl-4,6-Dinitro-	534521 or 534-52-1 NIOSH: GO 9625000 SAX: DUT400	Toxin	—	—	5.5	13	16	50
2,4-Dinitrophenol §§ --- § Nitro § Aldifen § Kleenup § 2,4-DNP § Chemox PE § Maroxol-50 § Solfo Black B § alpha-Dinitrophenol § Dinitrophenol, 2,4- § Phenol, 2,4-Dinitro- § Terrosulphur Black PB § RCRA Waste Number P048 § 1-Hydroxy-2,4-Dinitrobenzene	51285 or 51-28-5 NIOSH: SL 2800000 SAX: DUZ000	Toxin	—	—	1.5	70	13	50

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
2,4-Dinitrotoluene §§ --- § 2,4-DNT § NCI C01865 § 2,4-Dinitrotoluol § Toluene, 2,4-Dinitro- § RCRA Waste Number U105 § Benzene, 1-Methyl-2,4-Dinitro-	121142 or 121-14-2 NIOSH: XT 1575000 SAX: DVH000	Carcinogen	—	—	3.8	0.11	N/A	10
2,6-Dinitrotoluene §§ --- § 2,6-DNT § 2-Methyl-1,3-Dinitrobenzene § RCRA Waste Number U106	606202 or 606-20-2 NIOSH: XT 1925000 SAX: DVH400	Toxin	—	—	—	—	0.01	—
Dinoseb §§ --- § DNBP § DBNF § Arcuit § Basanite § Caldon § Sparic § Kiloseb § Spurge § Premerge § Dinitro § Hel-Fire § SHA 037505 § Dow General § Sinox General § RCRA Waste Number P020 § Dow General Weed Killer § Vertac General Weed Killer § 2-sec-Butyl-4,6-Dinitrophenol § Dinitro-Ortho-Sec-Butyl Phenol § 2-(1-Methylpropyl)-4,6-Dinitrophenol § 4,6-Dinitro-2-(1-Methyl-n-Propyl)Phenol § Phenol, 2-(1-Methylpropyl)-4,6-Dinitro-	88857 or 88-85-7 NIOSH: SJ 9800000 SAX: BRE500	Toxin	—	—	—	7	0.19	1.5
Dioxin §§ --- § TCDD § TCDBD § NCI C03714 § Dioxine § Tetradioxin § 2,3,7,8-TCDD § 2,3,7,8-Tetrachlorodibenzo-p-Dioxin § 2,3,7,8-Tetrachlorodibenzo-1,4-Dioxin § Dibenzo[b,e][1,4]Dioxin, 2,3,7,8-Tetrachloro-	1746016 or 1746-01-6 NIOSH: HP 3500000 SAX: TA1000	Carcinogen	—	—	5,000	0.000000013	N/A	1
1,2-Diphenylhydrazine §§ --- § Hydrazobenzene § NCI C01854 § N,N'-Bianiline § Benzene, Hydrazodi- § RCRA Waste Number U109 § (sym)-Diphenylhydrazine § Diphenylhydrazine, 1,2- § Hydrazine, 1,2-Diphenyl-	122667 or 122-66-7 NIOSH: MW 2625000 SAX: HHG000	Carcinogen	—	—	24.9	0.04	N/A	10
Diquat §§ --- § Actor § Reglox § Deiquat § Reglone § Aquacide § Dextrone § Paraquat § Preeglove § SHA 032201 § Weedtrine D § Diquat Dibromide § Ethylene Dipyridylium Dibromide § 1,1-Ethylene 2,2-Dipyridylium Dibromide § 5,6-Dihydro- Dipyrido(1,2a,1c)Pyrazinium Dibromide § 9,10-Dihydro-8a,10a- Diazoniaphenanthrene(1,1'-Ethylene-2,2'-Bipyridylium)Dibromide	85007 or 85-00-7 NIOSH: JM 5690000 SAX: DWX800	Toxin	—	—	—	20	0.44	10

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Endosulfan §§ --- § NCI C00566 § Malix v § Ensure § Beosit § Endocel § Thiodan § Cyclodan § Crisulfan § Benzoepin § Thiosulfan § SHA 079401 § Chlorthiepin § RCRA Waste Number P050 § Endosulfan (mixed isomers) § Hexachlorohexahydromethano 2,4,3-Benzodioxathiepin-3-Oxide § 1,4,5,6,7,7-Hexachloro-5-Norbornene-2,3-Dimethanol Cyclic Sulfite § 5-Norbornene-2, 3-Dimethanol, 1,4,5,6,7,7-Hexachloro Cyclic Sulfite § 6,7,8,9,10,10-Hexachloro-1,5,5a,6,9,9a-Hexahydro-6,9-Methano-2,4,3-Benzodioxathiepin-3-Oxide § 6,9-Methano-2,4,3-Benzodioxathiepin, 6,7,8,9,10,10-Hexachloro-1,5,5a,6,9,9a-Hexahydro-, 3-Oxide	115297 or 115-29-7 NIOSH: RB 9275000 SAX: BCJ250	Toxin	0.11	0.056	270	110	see Cis and Trans isomers	see Cis and trans isomers
Endosulfan, I §§ --- § Thiodan I § Endosulfan-I § Alpha-Endosulfan § alpha-Endosulfan	959988 or 959-98-8 NIOSH: --- SAX: ---	Toxin	0.11	0.056	270	110	0.014	0.015
Endosulfan, II §§ --- § Thiodan II § Endosulfan-II § Beta-Endosulfan § beta-Endosulfan	33213659 or 33213-65-9 NIOSH: --- SAX: ---	Toxin	0.11	0.056	270	110	0.004	0.024
Endosulfan Sulfate §§ --- § 6,9-Methano-2,3,4-Benzodioxathiepin, 6,7	1031078 or 1031-07-8 NIOSH: --- SAX: ---	Toxin	---	---	270	110	0.05	0.05
Endothall §§ --- § Hydout § Hydrothal-47 § Aquathol § SHA 038901 § Accelerate § Tri-Endothal § Endothal Hydout § RCRA Waste Number P088 § 3,6-Endooxohexahydrophthalic Acid § Phthalic Acid, Hexahydro-3,6-endo-Oxy- § 7-Oxabicyclo(2,2,1)Heptane-2,3-Dicarboxylic Acid § 1,2-Cyclohexanedicarboxylic Acid, 3,6-endo-Epoxy-	145733 or 145-73-3 NIOSH: RN 7875000 SAX: EAR000	Toxin	---	---	---	100	1	2
Endrin §§ --- § NCI C00157 § Endrex § Mendrin § Nendrin § Hexadrin § SHA 041601 § Compound 269 § RCRA Waste Number P051 § 1,2,3,4,10,10-Hexachloro-6,7-Epoxy-1,4,4(a)5,6,7,8,8a-Octahydro-endo § 3,4,5,6,9,9-Hexachloro-1a,2,2a,3,6,6a,7,7a-Octahydro-2,7:3,6-Dimethanonaphth[2,3-b]oxirene § 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-Hexachloro-6,7-Epoxy-1,4,4a,5,6,7,8,8a-Octahydro-Endo,Endo-	72208 or 72-20-8 NIOSH: IO 1575000 SAX: EAT500	Toxin with BCF >300	0.09	0.0023	3,970	0.76	N/A	0.3
Endrin Aldehyde §§ ---	7421934 or 7421-93-4 NIOSH: --- SAX: ---	Toxin with BCF >300	---	---	3,970	0.76	N/A	0.025
Epichlorohydrin §§ --- § ECH § Epoxy Propane § α-Epichlorohydrin § Chloromethyloxirane § RCRA Waste Number U041 § γ-Chloropropyleneoxide § 2-Chloropropylene Oxide § Glycerol Epichlorhydrin § 2,3-Epoxypropyl Chloride § 1-Chlor-2,3-Epoxypropane § 3-Chlor-1,2-Epoxypropane	106898 or 106-89-8 NIOSH: TX 4900000 SAX: CGN750	Carcinogen	---	---	---	3	N/A	---

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Ethylbenzene §§ --- § EB § NCI C56393 § Ethylbenzol § Phenylethane § Ethyl Benzene § Benzene, Ethyl	100414 or 100-41-4 NIOSH: DA 0700000 SAX: EGP500	Toxin	---	---	37.5	700	0.002	0.5
1,2-Dibromoethane §§ Ethylene Dibromide § DBE § EDB § Nephis § Kopfume § Celmide § E-D-Bee § Soilfume § Bromofume § Dowfume 40 § SHA 042002 § Pesmaster § Soilbrom-40 § Dibromoethane § Ethylene Bromide § Glycol Dibromide § 1,2-Dibromoethane § Dibromoethane, 1,2- § 1,2-Ethylene Dibromide § RCRA Waste Number U067	106934 or 106-93-4 NIOSH: KH 9275000 SAX: EIY500	Carcinogen	---	---	---	0.05	N/A	0.5
Fluoranthene §§ --- § Idryl § Benzo(jk)Fluorene § Benzo(j,k)Fluorene § 1,2-Benzacenaphthene § RCRA Waste Number U120 § 1,2-(1,8-Naphthylene)Benzene § Benzene, 1,2-(1,8-Naphthalenediyl)-	206440 or 206-44-0 NIOSH: LL 4025000 SAX: FDF000	Toxin with BCF >300	---	---	1,150	300	N/A	10
Fluorene (PAH) §§ --- § 9H-Fluorene § Diphenylenemethane § o-Biphenylenemethane § 2,2'-Methylenebiphenyl	86737 or 86-73-7 NIOSH: --- SAX: ---	Carcinogen	---	---	30	1,300	N/A	0.25
Fluoride §§ Flouride § Fluoride § Fluoride(1-) § Perfluoride § Fluoride Ion § Fluorine, Ion § Soluable Fluoride § RCRA Waste Number P056 § Hydrofluoric Acid, Ion(1-)	7782414 or 7782-41-4 NIOSH: LM 6475000 SAX: FEZ000	Toxin	---	---	---	4,000	5	100
Fluoride §§ Flourine § Fluoride § Fluoride(1-) § Perfluoride § Fluoride Ion § Fluorine, Ion § Soluable Fluoride § RCRA Waste Number P056 § Hydrofluoric Acid, Ion(1-)	16984488 or 16984-48-8 NIOSH: LM 6290000 SAX: FEX875	Toxin	---	---	---	4,000	5	100
Gamma Emitters (10) §§ ---	Multiple	Carcinogen / Radioactive	---	---	---	4 mrem ede/yr	N/A	---
Gases, dissolved, total-pressure (20) §§ ---	Multiple	Toxin	---	110% of saturation	---	---	---	---
Glyphosate §§ --- § Jury § Honcho § Rattler § Weedoff § Roundup § Glifonox § n-(Phosphonomethyl)-Glycine § Glycine, n-(Phosphonomrthyl)- § Glyphosate plus inert ingredients § MON 0573	1071836 or 1071-83-6 NIOSH: MC 1075000 SAX: PHA500	Toxin	---	---	---	700	6	50
Glyphosate Isopropylamine Salt §§ --- § SHA 103601	38641940 or 38641-94-0 NIOSH: --- SAX: ---	Toxin	---	---	---	700	6	50

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Guthion §§ --- § DBD § NCI C00066 § Carfene § Gothnion § Azinphos § Crysthyon § Gusathion § Bay 17147 § Methylazinphos § Methyl Guthion § Methyl-Guthion § Azinphos-Methyl § Azinphos Methyl § Caswell Number 374 § EPA Pesticide Chemical Code 058001 § o,o-Dimethylphosphorodithioate S-Ester § 3-Mercaptomethyl)-1,2,3-Benzotriazin-4(3H)-One § Benzotriazinedithiophosphoric Acid Dimethoxy Ester § 3-Dimethoxyphosphinothiomethyl-1,2,3-Benzotriazin-4(3H)-One § Phosphorodithioic Acid, O,O-Dimethyl Ester, S-Ester with 3-(Mercaptomethyl)-1,2,3-Benzotriazin-4(3H)-One	86500 or 86-50-0 NIOSH: TE 1925000 SAX: ASH500	Toxin	—	0.01	—	—	—	—
Hardness, total §§ ---	N/A	Narrative (18)	—	—	—	—	N/A	1,000
Heptachlor §§ --- § NCI C00180 § Drinox § Heptamul § Agroceris § Heptagran § SHA 04481 § Rhodiachlor § Velsicol-104 § RCRA Waste Number P059 § 3,4,5,6,7,8,8a-heptachlorodicyclopentadiene § Dicyclopentadiene, 3,4,5,6,7,8,8a-Heptachloro- § 1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-Tetrahydro-4,7-Methanol-1H-Indene § 4,7-Methano-1H-Indene, 1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-Tetrahydro- § 1(3a),4,5,6,7,8,8-Heptachloro-3a(1),4,7,7a-Tetrahydro-4,7-Methanoindene	76448 or 76-44-8 NIOSH: PC 0700000 SAX: HAR000	Carcinogen	0.26	0.0038	11,200	0.00021	N/A	0.2
Heptachlor Epoxide §§ --- § HCE § Velsicol 53-CS-17 § Epoxyheptachlor § 1,4,5,6,7,8,8-Heptachloro-2,3-Epoxy-2,3,3a,4,7,7a-Hexahydro-4,7-Methanoindene § 2,5-Methano-2H-Indeno[1,2b]Oxirene, 2,3,4,5,6,7,7-Heptachloro-1a,1b,5,5a,6,6a-Hexahydro- (alpha, beta, and gamma isomers)	1024573 or 1024-57-3 NIOSH: PB 9450000 SAX: EBW500	Carcinogen	0.26	0.0038	11,200	0.0001	N/A	0.1
Hexachlorobenzene §§ --- § HCB § Amatin § Smut-Go § Sanocide § Anticarie § Bunt-Cure § Bunt-No-More § Perchlorobenzene § Phenyl Perchloryl § No Bunt Liquid § Julin's Carbon Chloride § Co-op Hexa § Hexa C.B. § Benzene, Hexachloro-	118741 or 118-74-1 NIOSH: DA 2975000 SAX: HCC500	Carcinogen	—	—	8,690	0.00075	N/A	0.2
Hexachlorobutadiene §§ --- § HCBD § Dolan-Pur § Perchlorobutadiene § RCRA Waste Number U128 § 1,3-Hexachlorobutadiene § 1,3-Butadiene, Hexachloro- § 1,1,2,3,4,4-Hexachloro-1,3-Butadiene § 1,3-Butadiene, 1,1,2,3,4,4-Hexachloro-	87683 or 87-68-3 NIOSH: EJ 0700000 SAX: PCF000	Carcinogen	—	—	2.78	0.44	N/A	10
Hexachlorocyclohexane §§ --- § BHC § DBH § HCH § HCCH § HEXA § Hexylan § Hexachlor § Gammexane § Hexachloran § Compound 666 § Benzenehexachloride § Benzene Hexachloride	608731 or 608-73-1 NIOSH: GV 3150000 SAX: BBP750	Carcinogen	—	—	130	0.0039	N/A	0.1

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alpha-Hexachlorocyclohexane §§ --- § Benzene Hexachloride-α-isomer § α-BHC § alpha-BHC § HCH-alpha § alpha-HCH § alpha-Lindane § α Hexachlorocyclohexane § alpha-Benzenehexachloride § Hexachlorocyclohexane-alpha § alpha-Hexachlorocyclohexane § Benzene Hexachloride-alpha-isomer § alpha-1,2,3,4,5,6-Hexachlorocyclohexane § Cyclohexane, alpha-1,2,3,4,5,6-Hexachloro- § 1-alpha,2-alpha,3-beta,4-alpha,5-beta,6-beta-Hexachlorocyclohexane § Cyclohexane, alpha-1,2,3,4,5,6-Hexachloro-, (1-alpha, 2-alpha, 3-beta, 4-alpha, 5-beta, 6-beta)-	319846 or 319-84-6 NIOSH: GV 3500000 SAX: BBQ000	Carcinogen	—	—	130	0.0039	N/A	0.1
beta-Hexachlorocyclohexane §§ --- § ß-BHC § beta-BHC § HCH-beta § beta-HCH § ß-Lindane § beta-Lindane § beta-Hexachlorobenzene § ß Hexachlorocyclohexane § Hexachlorocyclohexane-beta § Hexachlorocyclohexane, beta- § trans-alpha-Benzenehexachloride § Benzenehexachloride, trans-alpha- § beta-1,2,3,4,5,6-Hexachlorocyclohexane § Cyclohexane, 1,2,3,4,5,6-Hexachloro-, beta- § 1-alpha,2-beta,3-alpha,4-beta,5-alpha,6-beta-Hexachlorocyclohexane § Cyclohexane, 1,2,3,4,5,6-Hexachloro-, (1-alpha, 2-beta, 3-alpha, 4-beta, 5-alpha, 6-beta)-	319857 or 319-85-7 NIOSH: GV 4375000 SAX: BBR000	Carcinogen	—	—	130	0.014	N/A	0.1
delta-Hexachlorocyclohexane §§ --- § δ-BHC § delta-BHC § HCH-delta § delta-HCH § Δ-BHC § Δ-Lindane § delta-Lindane § δ Hexachlorocyclohexane § delta-Benzenehexachloride § Hexachlorocyclohexane-delta § Hexachlorocyclohexane, delta- § Cyclohexane, delta-1,2,3,4,5,6-Hexachloro- § delta-1,2,3,4,5,6-Hexachlorocyclohexane § 1-alpha,2-alpha,3-alpha,4-beta,5-alpha,6-beta-Hexachlorocyclohexane § Cyclohexane, delta-1,2,3,4,5,6-Hexachloro-, (1-alpha, 2-alpha, 3-alpha, 4-beta, 5-alpha, 6-beta)-	319868 or 319-86-8 NIOSH: GV 4550000 SAX: BFW500	Toxin	—	—	130	—	0.009	0.1
gamma-hexachlorocyclohexane §§ Lindane § ΓBHC § γ-BHC § Gamene § Lintox § Lentox § Hexicide § Aparsin § Agrocide § Afcide § BHC-gamma § gamma-BHC § HCH-gamma § gamma-HCH § Γ Hexachlorocyclohexane § gamma-Hexachlorobenzene § gamma-Benzenehexachloride § gamma-Benzene Hexachloride § Hexachlorocyclohexane-gamma § Hexachlorocyclohexane (gamma) § Benzene Hexachloride-gamma-isomer § gamma-1,2,3,4,5,6-Hexachlorocyclohexane § Cyclohexane, 1,2,3,4,5,6-Hexachloro-, gamma isomer § 1,2,3,4,5,6-Hexachlorocyclohexane, gamma-isomer § 1-alpha,2-alpha,3-beta,4-alpha,5-alpha,6-beta-Hexachlorocyclohexane § Cyclohexane, 1,2,3,4,5,6-Hexachloro-, (1-alpha, 2-alpha, 3-beta, 4-alpha, 5-alpha, 6-beta)	58899 or 58-89-9 NIOSH: GV 4900000 SAX: BBQ500	Carcinogen	1	0.08	130	0.019	N/A	0.1
Hexachlorocyclopentadiene §§ --- § HEX § HCP § PCL § C-56 § HCCPD § NCI C55607 § Hexachloropentadiene § RCRA Waste Number U130 § Perchlorocyclopentadiene § 1,3-Cyclopentadiene, 1,2,3,4,5,5-Hexachloro-	77474 or 77-47-4 NIOSH: GY 1225000 SAX: HCE500	Harmful	—	—	4.34	1	N/A	1

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			Acute (3)	Chronic (4)				
Hexachloroethane §§ --- § Avlotane § Distokal § Distopan § Distopin § Egitol § Falkitol § Fasciolin § NCI C04604 § Phenohep § Mottenhexe § Perchloroethane § Hexachloroethylene § Ethane, Hexachloro- § Carbon Hexachloride § Ethane Hexachloride § Ethylene Hexachloride § RCRA Waste Number U131 § 1,1,1,2,2,2-Hexachloroethane	67721 or 67-72-1 NIOSH: KJ 4025000 SAX: HCl000	Carcinogen	---	---	86.9	1.9	N/A	10
Hydrogen Sulfide §§ --- § Stink Damp § Sulfur Hydride § Hydrogen Sulphide § Dihydrogen Sulfide § Hydrosulfuric Acid § Sulfurated Hydrogen § RCRA Waste Number U135 § Dihydrogen Monosulfide § Hydrogen Sulfuric Acid	7783064 or 7783-06-4 NIOSH: MX 1225000 SAX: HIC500	Toxin	---	2	---	---	200	200
Indeno(1,2,3-cd)pyrene (PAH) §§ --- § o-Phenylenepyrene § 2,3-Phenylenepyrene § 2,3-o-Phenylenepyrene § RCRA Waste Number U137 § Indeno (1,2,3-cd) Pyrene § 1,10-(o-Phenylene)Pyrene § 1,10-(1,2-Phenylene)Pyrene	193395 or 193-39-5 NIOSH: NK 9300000 SAX: IBZ000	Carcinogen	---	---	30	0.0044	N/A	0.5
Iodine (10) §§ I	Iodine 129 15046841 or 15046-84-1 NIOSH: --- SAX: ---	Carcinogen / Radioactive	---	---	---	4 mrem ede/yr ---	N/A	---
Iodine (10) §§ I	Iodine 131 10043660 or 10043-66-0 NIOSH: --- SAX: ---	Carcinogen / Radioactive	---	---	---	4 mrem ede/yr	N/A	---
Iodine (10) §§ I	Iodine 133 --- NIOSH: --- SAX: ---	Carcinogen / Radioactive	---	---	---	4 mrem ede/yr	N/A	---
Iron (9) §§ Fe § Ancor EN 80/150 § Carbonyl Iron § Armco Iron	7439896 or 7439 89-6 NIOSH: NO 4565500 SAX: IGK800	Harmful	---	1,000	---	300	N/A	10
Isophorone §§ --- § Isoforon § NCI C55618 § Isoacetophorone § alpha Isophorone § 1,1,3-Trimethyl-3-Cyclohexene-5-One § 3,5,5-Trimethyl-2-Cyclohexene-1-One § 3,5,5-Trimethyl-2-Cyclohexone	78591 or 78-59-1 NIOSH: GW 7700000 SAX: IHO000	Carcinogen	---	---	4.38	36	N/A	10
Lead (9) §§ Pb § C.I. 77575 § C.I. Pigment Metal 4 § Glover § Lead Flake § Lead 22 § Omaha § Omaha & Grant § SI § SO	7439921 or 7439-92-1 NIOSH: OF 7525000 SAX: LCF000	Toxin	82 @ 100 mg/l hardness (12)	3.2 @ 100 mg/l hardness (12)	49	15	0.1	3.18

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			Acute (3)	Chronic (4)				
Malathion §§ --- § Formal § Sumitox § Emmatos § Celthion § Forthion § Malacide § Kop-Thion § Calmathion § Carbethoxy § NCI C00215 § Carbethoxy Malathion § SHA 057701 § Phosphothion § S-1,2-Bis(Ethoxycarbonyl)Ethyl-O,O-Dimethyl Thiophosphate § O,O-Dimethyl-S-(1,2-Dicarbethoxyethyl) Dithiophosphate § O,O-Dimethyl S-1,2-Di(Ethoxycarbamyl)Ethyl Phosphorodithioate § Succinic Acid, mercapto-, diethyl ester, S-Ester with O,O-Dimethyl Phosphorodithioate	121755 or 121-75-5 NIOSH: WM 8400000 SAX: CBP000	Toxin	—	0.1	—	—	—	—
Manganese (9) §§ Mn § Colloidal Manganese § Magnacat § Tronamang	7439965 or 7439-96-5 NIOSH: OO 9275000 SAX: MAP750	Harmful	—	—	—	50	N/A	5
Mercury (9) §§ Hg § Colloidal Mercury § Mercury, Metallic § NCI C60399 § Quick Silver § RCRA Waste Number U151	7439976 or 7439-97-6 NIOSH: OV 4550000 SAX: MCW250	Toxin with BCF >300	2.4	0.012	5,500	0.05	N/A	0.636
Methoxychlor §§ --- § DMDT § Metox § Moxie § Methoxicide § NCI C00497 § Methoxy-DDT § Dimethoxy-DDT § RCRA Waste Number U247 § 1,1,1-Trichloro-2,2-Bis(p-Methoxyphenyl)Ethane § Benzene, 1,1'-(2,2,2-Trichloroethylidene)Bis[4-Methoxy- § 1,1'-(2,2,2-Trichloroethylidene)Bis[4-Methoxybenzene] § Ethane, 1,1,1-Trichloro-2,2-Bis(p-Methoxyphenyl)-	72435 or 72-43-5 NIOSH: KJ 3675000 SAX: DOB400	Toxin	—	0.03	—	40	0.04	1
Methyl Chloride §§ Chloromethane § Arctic § Monochloromethane § RCRA Waste Number U045	74873 or 74-87-3 NIOSH: PA 6300000 SAX: CHX500	Toxin	—	—	3.75	—	0.08	—
Mirex §§ --- § NCI C06428 § Dechlorane § Bichlorendo § Ferramicide § Perchloropentacyclodecane § Dodecachloropentacyclodecane § Hexachlorocyclopentadiene Dimer § Cyclopentadiene, Hexachloro-, Dimer § Perchloropentacyclo(5.2.1.0[sup 2,6].0[sup 3,9].0[sup 5,8])Decane § Dodecachlorooctahydro-1,3,4-Metheno-2H-Cyclobuta (c,d)Pentalene § 1,1a,2,2,3,3a,4,5,5,5a,5b,6-Dodecachlorooctahydro-1,3,4-Metheno-1H-Cyclobuta(cd)Pentalene § 1,3,4-Metheno-1H-Cyclobuta[cd]Pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6,-Dodecachlorooctahydro-	2385855 or 2385-85-5 NIOSH: PC 8225000 SAX: MQW500	Toxin	—	0.001	—	—	0.01	0.1
Naphthalene §§ --- § Mighty 150 § NCI C52904 § Naphthene § White Tar § Moth Balls § Naphthalin § Tar Camphor § Caswell Number 587 § RCRA Waste Number U165 § EPA Pesticide Chemical Code 055801	91203 or 91-20-3 NIOSH: QJ 0525000 SAX: NAJ500	Toxin	—	—	10.5	—	0.04	10

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			Acute (3)	Chronic (4)				
Nickel (9) §§ Ni § C.I. 77775 § Ni 270 § Nickel 270 § Ni 0901-S § Ni 4303T § NP 2 § Raney Alloy § Raney Nickel	7440020 or 7440-02-0 NIOSH: QR 5950000 SAX: NCW500	Toxin	1,400 @ 100 mg/l hardness (12)	160 @ 100 mg/l hardness (12)	47	100	0.5	20
Nitrate (as Nitrogen[N]) §§ NO_3	14797558 or 14797-55-8 NIOSH: --- SAX: ---	Toxin	(8)	(8)	—	10,000	10, Surface 2,500, Ground	10
Nitrite (as Nitrogen[N]) §§ NO_2	14797650 or 14797-65-0 NIOSH: --- SAX: ---	Toxin	(8)	(8)	—	1,000	4	10
Nitrate plus nitrite (as Nitrogen[N]) §§ $NO_3 + NO_2$	17778880 or 17778-88-0 NIOSH: — SAX: ---	Toxin/Harmful	(8)	(8)	—	10,000	10, Surface 2,500, Ground	10
Nitrobenzene §§ --- § NCI C60082 § Mirbane Oil § Nitrobenzol § Oil of Mirbane § Benzene, Nitro- § Essence of Myrbane § RCRA Waste Number U169	98953 or 98-95-3 NIOSH: DA 6475000 SAX: NEX000	Toxin	—	—	2.89	17	1.9	10
o-Nitrophenol §§ --- § 2-Nitrophenol § 2-Hydroxynitrobenzene	88755 or 88-75-5 NIOSH: SM 2100000 SAX: NIE500	Toxin	—	—	2.33	—	0.45	—
4-Nitrophenol §§ --- § 4-Hydroxynitrobenzene § NCI C55992 § p-Nitrophenol (DOT) § RCRA Waste Number U170	100027 or 100-02-7 NIOSH: SM 2275000 SAX: NIF000	Toxin	—	—	3.31	—	2.4	—
N-Nitrosodi-N-Propylamine §§ --- § DPN § DPNA § NDPA § Dipropylnitrosamine § N-Nitrosodipropylamine § Di-n-Propylnitrosamine § RCRA WAste Number U111 § Dipropylamine, N-Nitroso- § N-Nitrosodi-n-propylamine § N-Nitroso-di-n-propylamine § 1-Propanamine, N-Nitroso-n-Propyl-	621647 or 621-64-7 NIOSH: JL 9700000 SAX: DWU600	Carcinogen	—	—	1.13	0.005	N/A	10
N-Nitrosodimethylamine §§ Dimethylnitrosamine § DMN § NDMA § DMNA § Nitrosodimethylamine § Dimethylnitrosoamine § N-Nitrosodimethylamine § RCRA Waste Number P082 § N,N-Dimethylnitrosamine § Methylamine, N-Nitrosodi- § Dimethylamine, N-Nitroso- § N-Methyl-N-Nitrosomethanamine § Methamine, N-Methyl-N-Nitroso- § Methanamine, N-Methyl-N-Nitroso-	62759 or 62-75-9 NIOSH: IQ 0525000 SAX: DSY400	Carcinogen	—	—	0.026	0.00069	N/A	10

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Pollutants Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
N-Nitrosodiphenylamine §§ --- § NDPA § NDPhA § Vulkol § Curetard A § NCI C02880 § Redax § TJP § Retarder J § Vulcalent A § Vulcatard § Vulkol § Nitrosodiphenylamine § Diphenylnitrosamine § N,N-Diphenylnitrosamine § N-Nitroso-N-Phenylaniline § Diphenylamine, N-Nitroso- § Benzenamine, N-Nitroso-N-Phenyl-	86306 or 86-30-6 NIOSH: JJ 9800000 SAX: DW1000	Carcinogen	—	—	136	5	N/A	10
N-Nitrosopyrrolidene §§ --- § NPYR § NO-pyr § N-N-pyr § 1-Nitrosopyrrolidene § Pyrrolidine, 1-Nitroso- § RCRA Waste Number U180 § Tetrahydro-N-Nitrosopyrrole § Pyrrole, Tetrahydro-N-Nitroso-	930552 or 930-55-2 NIOSH: UY 1575000 SAX: NLP500	Carcinogen	—	—	0.055	0.017	N/A	10
Odor (13) §§ ---	N/A	Harmful	—	—	—	—	N/A	—
Oxamyl §§ --- § D-1410 § DPX 1410 § Insecticide-Nematicide 1410 § Vydate § Thioxamyl § Methyl 2-(Dimethylamino)-N- § Vydate L, Insecticide/Nematicide § (({[Methylamino]Carbonyl}Oxy)-2-Oxoethanimidothioate § 2-Dimethylamino-1-(Methylthio)Glyoxal O-Methylcarbamoylmonoxime § S-Methyl 1-Dimethylcarbamoyl)-N ({Methylcarbamoyl}Oxy)Thioformimidate § Methyl N',N'-Dimethyl-N-({Methylcarbamoyl}Oxy)-1-Thiooxamimidate § N',N'-Dimethyl N-[(Methylcarbamoyl)oxy]-1-Methylthiooxamimidic Acid	23135220 or 23135-22-0 NIOSH: RP 2300000 SAX: DSP600	Toxin	—	—	—	200	1	1
Oxygen, dissolved (20) §§ O_2 § Oxygen, Compressed § Oxygen, Refrigerated Liquid	7782447 or 7782-44-7 NIOSH: RS 2060000 SAX: OQW000	Toxin	(13) (15)	(15)	—	—	50	100
Parathion §§ --- § DNTP § Niran § Phoskil § Paradust § Stathion § Strathion § Pestox Plus § Nitrostigmine § Parathion Ethyl § Parathion-ethyl § Ethyl Parathion § Diethylparathion § Caswell Number 637 § RCRA Waste Number P089 § EPA Pesticide Chemical Code 057501 § Diethyl 4-Nitrophenylphosphorothioate § Diethyl para-Nitrophenol Thiophosphate § Diethyl-p-Nitrophenyl Monothiophosphate § O,O-Diethyl O-4-Nitrophenyl Thiophosphate § Phosphorothioic Acid, O,O-Diethyl O-(4-Nitrophenyl) Ester	56382 or 56-38-2 NIOSH: TF 4920000, dry TF 4950000, liquid SAX: PAK250, dry SAX: PAK260, liquid	Toxin	0.065	0.013	—	—	0.06	1
Pentachlorobenzene §§ --- § QCB § Benzene, Pentachloro- § RCRA Waste Number U183	608935 or 608-93-5 NIOSH: DA 6640000 SAX: PAV500	Toxin with BCF >300	—	—	2,125	3.5	N/A	0.1

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Pentachlorophenol §§ --- § PCP § Penta § Durotox § Weedone § Chem-Tol § Lauxtol A § NCI C54933 § NCI C55378 § NCI C56655 § Permite § Dowcide 7 § Permacide § Penta-Kil § Permagard § Penchlorol § Chlorophen § Pentachlorphenol § Pentaclorofenolo § Thompson's Wood Fix § Phenol, Pentachloro- § 2,3,4,5,6-Pentachlorophenol § 1-Hydroxy- 2,3,4,5,6-Pentachlorobenzene	87865 or 87-86-5 NIOSH: SM 6300000 SAX: PAX250	Carcinogen	20 @ pH of 7.8 (14)	13 @ pH of 7.8 (14)	11	0.28	N/A	0.05
pH (13) §§ ---	N/A	Harmful - Surface Narrative - Ground	—	—	—	—	N/A	—
Phenanthrene (PAH) §§ --- § Phenantrin	85018 or 85-01-8 NIOSH: SF 7175000 SAX: PCW250	Toxin	—	—	30	—	0.01	0.25
Phenol §§ --- § Baker's P and S Liquid and Ointment § NCI C50124 § Benzenol § Monophenol § Oxybenzene § Phenic Acid § Carbolic Acid § Phenylic Acid § Hydroxybenzene § Hydroxybenzene § Phenyl Alcohol § Phenyl Hydrate § Phenylic Alcohol § Phenyl Hydroxide § Benzene, Hydroxy- § Monohydroxybenzene § RCRA Waste Number U188	108952 or 108-95-2 NIOSH: SJ 3325000 SAX: PDN750	Harmful	—	—	1.4	300	N/A	10
Phosphorus, Inorganic (9) (20) §§ --- § Ortho-phosphorus § phosphorus, Ortho-	14265442 or 14265-44-2 NIOSH: --- SAX: ---	Harmful	(8)	(8)	—	—	1	1
Picloram §§ --- § ATCP § K-Pin § Tordon § Borolin § Amdon Grazon § NCI C00237 § Tordon 10K § Tordon 22K § Tordon 101 Mixture § 3,5,6-Trichloro-4-Aminopicolinic Acid § 4-Amino-3,5,6-Trichloropicolinic Acid	1918021 or 1918-02-1 NIOSH: TJ 7525000 SAX: AMU250	Toxin	—	—	—	500	0.14	1
Pyrene (PAH) §§ --- § ß-Pyrine § beta-Pyrene § Benzo(def)Phenanthrene § Benzo[def]Phenanthrene	129000 or 129-00-0 NIOSH: UR 2450000 SAX: PON250	Carcinogen	—	—	30	960	N/A	0.25
Radium 226 §§ ---	Radium 226 13982636 or 13982-63-6 NIOSH: --- SAX: ---	Carcinogen / Radioactive	—	—	—	20 picocuries/liter. Note: The sum of Radium 226 and 228.	N/A	—
Radium 228 §§ ---	Radium 228 15262201 or 15262-20-1 NIOSH: --- SAX: ---	Carcinogen / Radioactive	—	—	—	20 picocuries/liter. Note: The sum of Radium 226 and 228.	N/A	—

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Radon 222 §§ ---	14859677 or 14859-67-7 NIOSH: --- SAX: --	Carcinogen / Radioactive	---	---	---	300 picocuries/liter	N/A	---
Sediment, settleable solids, oils, grease, or floating solids (20) §§ --- § Methylene Blue Active Substances, § Residue, non-filterable, § Residue, non-settleable, § Settleable matter, § Oil & Grease, § Total Organic Carbon, § Hydrocarbons	N/A	Harmful (13)	---	---	---	---	N/A	---
Selenium (9) §§ Se § C.I. 77805 § Colloidal Selenium § Elemental Selenium § Selenium Alloy § Selenium Base § Selenium Dust § Selenium Elemental § Selinium Homopolymer § Selenium Metal Powder, Non-Pyrophoric § Vandex	7782492 or 7782-49-2 NIOSH: VS 7700000 VS 8310000, colloidal SAX: SBO500 SAX: SBP000, colloidal	Toxin	20	5	6	50	0.6	1
Silver (9) §§ Ag § Argentum § C.I. 77820 § Shell Silver § Silver Atom	7440224 or 7440-22-4 NIOSH: VW 3500000 SAX: SDI500	Toxin	4.1 @ 100 mg/l hardness (12)	---	0.5	---	0.2	3.18
Simazine §§ --- § CDT § Herbex § Framed § Bitemol § Radokor § A 2079 § Batazina § Cat (Herbicide) § CET § G 27692 § Geigy 27,692 § Gesaran § Gesatop 50 § Simazine 80W § Symazine § Taphazine § W 6658 § Zeapur § Princep § Aquazine § Herbazin § Tafazine § 2,4-bis(Ethylamino)-6-Chloro-s-Triazine § 1-Chloro, 3,5-Bisethylamino-2,4,6-Triazine § 2-Chloro-4,6-Bis(Ethylamino)-1,3,5-Triazine § 6-Chloro-N,N'-Diethyl-1,3,5-Triazine-2,4-Diyldiamine	122349 or 122-34-9 NIOSH: XY 5250000 SAX: BJP000	Carcinogen	---	---	---	4	N/A	0.3
Strontium 89 (10) §§ ---	14158271 or 14158-27-1 NIOSH: --- SAX: ---	Carcinogen / Radioactive	---	---	---	4 mrem ede/yr. Note: the sum of the dosage from Strontium 89 plus 90 cannot exceed this value.	N/A	---
Strontium 90 (10) §§ ---	10098972 or 10098-97-2 NIOSH: --- SAX: ---	Carcinogen / Radioactive	---	---	---	4 mrem ede/yr. Note: the sum of the dosage from Strontium 89 plus 90 cannot exceed this value.	N/A	---
Styrene §§ --- § Styrol § Cinnamol § Cinnamene § Cinnamenol § NCI C02200 § Styrole § Suolene § Styron § Styropor § Vinylbenzol § Phenethylene § Pheuylethene § Vinylbenzene § Ethenylbenzene § Phenylethylene § Benzene, Vinyl- § Styrene, Monomer	100425 or 100-42-5 NIOSH: WL 3675000 SAX: SMQ000	Toxin	---	---	---	100	0.008	0.5

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Sulfate §§ SO_4	14808798 or 14808-79-8 NIOSH: --- SAX: SNS000	Narrative (18)	—	—	—	—	N/A	1,000
Temperature (13) §§ ---	N/A	Harmful	—	—	—	—	N/A	—
1,2,4,5-Tetrachlorobenzene §§ --- § RCRA Waste Number U207 § Tetrachlorobenzene, 1,2,4,5- § Benzene, 1,2,4,5-Tetrachloro-	95943 or 95-94-3 NIOSH: DB 9450000 SAX: TBN750	Toxin with BCF >300	—	—	1,125	2.3	N/A	0.1
1,1,2,2-Tetrachloroethane §§ --- § TCE § Cellon § Westron § Bonoform § Tetrachloroethane § sym-Tetrachloroethane § RCRA Waste Number U209 § Acetylene Tetrachloride § Tetrachloroethane, 1,1,2,2- § Ethane, 1,1,2,2-Tetrachloro- § 1,1-Dichloro-2,2-Dichloroethane	79345 or 79-34-5 NIOSH: KI 8575000 SAX: ACK500	Carcinogen	—	—	5	0.17	N/A	0.5
Tetrachloroethylene §§ --- § NCI C04580 § PCE § Perk § PERC § ENMA § Dow-Per § Perchlor § Perclene § Perklone § Didakene § Tetra Cap § Percosolve § Perchloroethylene § Perchloroethylene § Tetrachloroethene § Carbon Bichloride § Carbon Dichloride § RCRA Waste Number U210 § Ethylene Tetrachloride § Ethylene, Tetrachloro- § 1,1,2,2-Tetrachloroethylene	127184 or 127-18-4 NIOSH: KX 3850000 SAX: TBQ250	Carcinogen	—	—	30.6	0.8	N/A	0.5
Thallium (9) §§ Tl § Ramor	7440280 or 7440-28-0 NIOSH: XG 3425000 SAX: TE1000	Toxin	—	—	119	1.7	0.3	3.18
Toluene §§ --- § Antisal 1a § NCI C07272 § Toluol § Tolu-Sol § Methacide § Methylbenzol § Methylbenzene § Phenylmethane § Phenyl-Methane § Methyl-Benzene § Benzene, Methyl § RCRA Waste Number U220	108883 or 108-88-3 NIOSH: XS 5250000 SAX: TGK750	Toxin	—	—	10.7	1,000	0.01	0.5
Total dissolved solids (20) §§ TDS § Solids, total dissolved	Multiple	Narrative (18)	—	—	—	—	N/A	10,000
Toxaphene §§ --- § Attac 4-2 § Alltox § Alltex § Attac 6 § Toxakil § Agricide § Chem-Phene § Clor Chem T-590 § Compound 3956 § Crestoxo § Estonox § Geniphene § Gy-Phene § Hercules 3956 § Melipax § Motox § PCC § Phenacide § Phenatox § Toxadust § Camphechlor § Maggot Killer (F) § Toxaphene mixture § Chlorinated-Camphene § Camphene, Octachloro- § RCRA Waste Number P123	8001352 or 8001-35-2 NIOSH: XW 5250000 SAX: THH750	Carcinogen	0.73	0.0002	13,100	0.00073	N/A	1

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17) (19)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
1,2,4-Trichlorobenzene §§ --- § unsym-Trichlorobenzene § Trichlorobenzene, 1,2,4- § Benzene, 1,2,4-Trichloro-	120821 or 120-82-1 NIOSH: DC 2100000 SAX: TIK250	Toxin	—	—	114	70	0.02	0.5
1,1,1-Trichloroethane §§ --- § α-T § Suvobane § Inhibisol § 1,1,1-TCE § Tri-Ethane § Solvent 111 § Aerothene TT § Chloroethene § Chlorten § NCI C04626 § Methylchloroform § Methyl Chloroform § Chloroform, Methyl- § 1,1,1-Trichloroethene § alpha-Trichloroethane § Methyltrichloromethane § RCRA WAste Number U226 § Trichloroethane, 1,1,1- § Ethane, 1,1,1-Trichloro-	71556 or 71-55-6 NIOSH: KJ 2975000 SAX: TIM750	Carcinogen	—	—	5.6	200	N/A	0.5
1,1,2-Trichloroethane §§ --- § β-T § Vinyl Trichloride § Ethane Trichloride § beta-Trichloroethane § 1,2,2-Trichloroethane § RCRA Waste Number U227 § Trichloroethane, 1,1,2- § NCI C04579 § Ethane, 1,1,2-Trichloro- § Caswell Number 875A [NLM] § EPA Pesticide Chemical Code 081203 [NLM]	79005 or 79-00-5 NIOSH: KJ 3150000 SAX: TIN000	Carcinogen	—	—	4.5	0.61	N/A	0.5
Trichloroethylene §§ --- § TCE § Triad § Vitran § Algylen § Dow-Tri § Lanadin § Vestrol § Anamenth § Benzinol § Tri-Plus § Tri-Clene § Trichlorethene § Trichloroethene § Trichloroethane § Trichlorethylene § Tetrachloroethene § Ethene, Trichloro- § Ethylene Trichloride § Ethylene, Trichloro- § Acetylene Trichloride § 1,1,2-Trichloroethylene § 1,2,2-Trichloroethylene § 1-Chloro-2,2-Dichloroethylene § 1,1-Dichloro-2-Chloroethylene	79016 or 79-01-6 NIOSH: KX 4550000 SAX: TIO750	Carcinogen	—	—	10.6	2.7	N/A	0.5
Trichlorofluoromethane (HM) §§ --- § F 11 § FC 11 § Freon 11 § Arcton 9 § Eskimon 11 § Halocarbon 11 § Algofrene Type 1 § RCRA Waste Number U121 § Fluorocarbon Number 11 § NCI C04637 § Isotron 11 § Fluorotrichloromethane § Isceon 131 § Monofluorotrichloromethane § Ucon Refrigerant 11 § Trichloromonofluoromethane	75694 or 75-69-4 NIOSH: PB 6125000 SAX: TIP500	Toxin	—	—	3.75	10,000	0.07	0.5
2,4,5-Trichlorophenol §§ --- § Nurelle § Dowcide B § Dowcide 2 § Collunosol § Preventol 1 § Trichlorophenol, 2,4,5- § RCRA Waste Number U230 § NCI C61187	95954 or 95-95-4 NIOSH: SN 1400000 SAX: TIV750	Harmful	—	—	110	1	N/A	10
2,4,6-Trichlorophenol §§ --- § Omal § Dowcide 2S § Phenachlor § RCRA Waste Number U231 § Trichlorophenol, 2,4,6- § Phenol, 2,4,6-trichloro- § NCI C02904	88062 or 88-06-2 NIOSH: SN 1575000 SAX: TIW000	Carcinogen	—	—	150	2.1	N/A	10

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			Acute (3)	Chronic (4)				
2 (2,4,5-Trichlorophenoxy) Propionic Acid §§ --- § Kuran § Propon § Silvex § Aqua-Vex § Ded-Weed § Sta-Fast § 2,4,5-TP § Color-Set § Weed-B-Gon § Double Strength § RCRA Waste Number U233 § 2,4,5-Trichlorophenoxypropionic Acid § α(2,4,5-Trichlorophenoxy)Propionic Acid § 2-(2,4,5-Trichlorophenoxy)-Proprionic Acid § Trichlorophenoxy Proprionic Acid, 2 (2,4,5- § (+/-)-2-(2,4,5-Trichlorophenoxy)propanoic Acid	93721 or 93-72-1 NIOSH: UF 8225000 SAX: TIX500	Toxin	—	—	—	10	0.075	0.1
Trihalomethanes, total §§ --- § TTHMs	Multiple	Carcinogen	—	—	—	100	N/A	2
Tritium (10) §§ H^3	10028178 or 10028-17-8 NIOSH: --- SAX: ---	Carcinogen / Radioactive	—	—	—	4 mrem ede/yr	N/A	—
Turbidity (13) (20) §§ ---	N/A	Harmful	—	—	—	—	N/A	1 NTU
Uranium, natural §§ U § Uranium Metal, Pyrophoric	7440611 or 7440-61-1 NIOSH: YR 3490000 SAX: UNS000	Carcinogen / Radioactive	—	—	—	30 picocuries per liter.	N/A	—
Vinyl Chloride §§ --- § VC § VCM § Chloroethene § Chloroethene § Chloroethylene § Chloroethylene § Ethylene, Chloro- § Monochloroethylene § Ethylene Monochloride § RCRA Waste Number U043 § Vinyl Chloride Monomer § Vinyl C Monomer § Trovidur	75014 or 75-01-4 NIOSH: KU 9625000 SAX: VNP000	Carcinogen	—	—	1.17	2	N/A	0.5
Xylenes §§ --- § Xylol § Violet 3 § Mixed Xylenes § Methyl Toluene § Dimethylbenzene § RCRA Waste Number U239 § NCI C55232 § Total equals the sum of meta, ortho, and para.	1330207 or 1330-20-7 NIOSH: ZE 2100000 SAX: XGS000	Toxin	—	—	—	10,000	0.5	1.5
Xylenes §§ --- § Xylol § Violet 3 § Mixed Xylenes § Methyl Toluene § Dimethylbenzene § RCRA Waste Number U239 § Total equals the sum of meta, ortho, and para.	1330207 or 1330-20-7 NIOSH: ZE 2100000 SAX: XGS000	Toxin	—	—	—	10,000	0.5	1.5
Xylenes §§ --- § Xylol § Violet 3 § Mixed Xylenes § Methyl Toluene § Dimethylbenzene § RCRA Waste Number U239 § Total equals the sum of meta, ortho, and para.	1330207 or 1330-20-7 NIOSH: ZE 2100000 SAX: XGS000	Toxin	—	—	—	10,000	0.5	1.5
m-Xylene §§ --- § m-Xylol § 1,3-Xylene § meta-Xylene § m-Dimethylbenzene § m-Methyltoluene § 1,3-Dimethylbenzene § 1,3-Dimethyl Benzene	108383 or 108-38-3 NIOSH: ZE 2275000 SAX: XHA000	Toxin	—	—	—	10,000	0.004	1.5

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			Acute (3)	Chronic (4)				
o-Xylene §§ --- § o-Xylol § 1,2-Xylene § ortho-Xylene § o-Methyltoluene § o-Dimethylbenzene § 1,2-Dimethylbenzene § 1,2-Dimethyl Benzene	95476 or 95-47-6 NIOSH: ZE 2450000 SAX: XHJ000	Toxin	--	--	--	10,000	0.004	1.5
p-Xylene §§ --- § p-Xylol § Chromar § Scintillar § 1,4-Xylene § para-Xylene § p-Methyltoluene § p-Dimethylbenzene § 1,4-Dimethylbenzene § 1,4-Dimethyl Benzene	106423 or 106-42-3 NIOSH: ZE 2625000 SAX: XHS000	Toxin	--	--	--	10,000	0.002	1.5
Zinc (9) §§ Zn § Blue Powder § C.I. 77945 § C.I. Pigment Black 16 § C.I. Pigment Metal 6 § Emanay Zinc Dust § Granular Zinc § Jasad § Merrillite § Pasco § Zinc, Powder or Dust, non-Pyrophoric § Zinc, Powder or Dust, Pyrophoric	7440666 or 7440-66-6 NIOSH: ZG 8600000 SAX: ZBJ000	Toxin	120 @ 100 mg/l hardness (12)	110 @ 100mg/l hardness (12)	47	5,000	5	10

CIRCULAR WQB-7
DETAILED NOTES OF EXPLANATION

Frequently used Acronyms:

§§ abc...	Name of Primary Synonym as listed in the EPA's data base IRIS.
§ abc...	Name of Additional Synonyms from various sources including IRIS.
BCF	Bio-concentration Factor.
CFR	Code of Federal Regulations.
EDE/YR	Effective dose equivalent per year.
E.P.A.	Environmental Protection Agency.
FPH	A factor in the formula for determining ammonia Standards for Freashwater Aquatic Life.
FT	A factor in the formula for determining ammonia Standards for Freashwater Aquatic Life.
HM	Halomethanes.
MDL	Method Detection Limit. The MDL is calculated from the standard deviation of replicate measurements, and is defined as the minimum concentration of a substance that can be identified, measured, and reported with 99% confidence that the analyte concentration is greater than zero.
MREM	Milli Roentgen-Equivalent-Man.
N/A	Not applicable.
n.d.	Not determined.
NTU	Nephelometric Turbidity Unit.
PAH	Polynuclear Aromatic Hydrocarbons.
PCB	Polychlorinated Biphenyls.

CIRCULAR WQB-7
DETAILED NOTES OF EXPLANATION

TCAP A factor in the formula for determining ammonia Standards for Freashwater Aquatic Life.

(1) Based on EPA's categories and include parameters determined to be to toxic (toxin), carcinogenic (carcinogen), or harmful. Harmful parameters include nutrients, biological agents, and those parameters which cause taste and/or odor effects or physical effects.

(2) Carcinogens: chemicals classified by EPA as carcinogens for an oral route of exposure; Standards are based upon the incremental risk of causing one additional instance of cancer in one million persons. Includes those parameters in classifications A (Human Carcinogen),B1 or B2 (Probable Human Carcinogens), and C (Possible Human Carcinogen).

(3) No sample shall exceed these concentrations.

(4) No four-day (96-hour) or longer period average concentration shall exceed these values.

(5) All bioconcentration factors (BCFs) were developed by the EPA as part of the Standards development as mandated by Section 304(a) of the Federal Clean Water Act. Values shown are current as of 07/01/1993.

(6) No sample shall exceed these concentrations.

Standards for metals (except aluminum) in surface water are based upon the analysis of samples following a "total recoverable" digestion procedure (Section 9.4, "Methods for Analysis of Water and Wastes", 1983, Environmental Monitoring and Support Laboratory, U.S. Environmental Protection Agency, EPA-600/4-79-020, or equivalent).

Standards for metals in ground water are based upon the dissolved portion of the sample (after filtration through a 0.45 µm membrane filter, as specified in "Methods for Analysis of Water and Wastes", 1983, Environmental Monitoring and Support Laboratory, U.S. Environmental Protection Agency, EPA-600/4-79-020, or equivalent).

For aluminum, both surface and ground water analyses will be based on the dissolved method of analysis.

(7) Freshwater Aquatic Life Standards for ammonia (mg/l NH_3) are expressed as a function of pH and temperature. The Acute equation and the Chronic equation are as follows:

$$\text{Acute}^1 = 0.52/FT/FPH/2 \text{ where}$$

$FT = 10^{0.03(20-TCAP)}$ if $TCAP \le T \le 30$

$= 10^{0.03(20-T)}$ if $0 \le T < TCAP$

$FPH = 1$ if $8 \le pH \le 9$

$= (1 + 10^{7.4-pH})/1.25$ if $6.5 \le pH < 8$

$TCAP = 20° C$ if Salmonids or other sensitive cold-water species present.

= 25° C if Salmonids and other sensitive cold-water species absent.

1 The usual Acute averaging period of one hour is not appropriate if excursions of concentrations to greater than 1.5 times the average occur during the hour; in such cases, a shorter averaging period will be required. To convert these values to mg/l N, multiply by 0.822.

Chronic[2] = 0.80/FT/FPH/RATIO where FT and FPH are as above and:

RATIO = 13.5 if $7.7 \leq pH \leq 9$

= $20(10^{7.7-pH}/1 + 10^{7.4-pH})$ if $6.5 \leq pH < 7.7$

TCAP = 15° C if Salmonids/other sensitive cold-water species present.

= 20° C if Salmonids/other sensitive cold-water species absent.

2 Because these formulas are non-linear in pH and temperature, the Standard is the average of separate evaluations of the formulas reflective of the fluctuations of flow, pH, and temperature within the averaging period; it is not appropriate to apply the formula to average pH, temperature and flow. To convert these values to mg/l N, multiply by 0.822.

(8) A plant nutrient, excessive amounts of which may cause violations of Administrative Rules of Montana (ARM) 16.20.633.(1)(c).

(9) Approved methods of sample preservation, collection, and analysis for determining compliance with the standards set forth in WQB-7 are found in:
1) 40 CFR Part 136 "Guidelines Establishing Test Procedures For the Analysis Of Pollutants", July 1, 1992, and;
2) The Environmental Protection Agency's (EPA) Methods for the Determination of Metals in Environmental Samples, EPA/600 4-91/010, dated June 1991, or equivalent, as determined by the Department.

(10) Radionuclide photon-emitters consisting of either beta or gamma emitters and are classified as carcinogenic. Their associated Standard is based upon a 4 mrem ede/yr exposure. This exposure is based upon daily ingestion of 2 liters of water. The emitters covered under this Standard are:

- Cesium, radioactive
- Iodine, radioactive
- Strontium -89 and -90, radioactive
- Tritium
- Gamma photon emitters

(11) Chemicals which are not individually classified as carcinogens but which are contained within a class of chemicals with carcinogenicity as the basis for the Standard derivation for that class of chemicals; an individual carcinogenicity assessment for these chemicals is pending.

(12) Freshwater Aquatic Life Standards for these metals are expressed as a function of total hardness (mg/l, CaCO3). The values displayed in the chart correspond to a total hardness of 100 mg/l. The hardness relationship is as follows:

CIRCULAR WQB-7
DETAILED NOTES OF EXPLANATION

	Acute = exp{ma[ln(hardness)]+ba}		Chronic = exp{mc[ln(hardness)]+bc}	
	ma	ba	mc	bc
cadmium	1.128	-3.828	0.7852	-3.490
copper	0.9422	-1.464	0.8545	-1.465
chromium (III)	0.8190	3.688	0.8190	1.561
lead	1.273	-1.460	1.273	-4.705
nickel	0.8460	3.3612	0.8460	1.1645
silver	1.72	-6.52	------	------
zinc	0.8473	0.8604	0.8473	0.7614

Note: If the hardness is <25mg/L as $CaCO_3$, the number 25 will be used in the calculation. If the hardness is greater than or equal to 400 mg/L of $CaCO_3$, 400 mg/L will be used in the calculation.

(13) Conditional limitations based upon Water-Use Designations. See Narrative Criteria of Water Quality Standards document.

(14) Freshwater Aquatic Life Standard for pentachlorophenol are expressed as a function of pH. Values displayed in the chart correspond to a pH of 7.8 and are calculated as follows:

Acute = exp[1.005(pH) - 4.830] Chronic = exp[1.005(pH) - 5.290]

(15) Freshwater Aquatic Life Standard for dissolved oxygen are as follows:

	Standards for Waters Classified Cool Water Aquatic life		Standards for Waters classified Warm Water Aquatic Life 1 &2 Cool Water Aquatic Life 2	
	Early Life Stages[1,2]	Other Life Stages	Early Life Stages[2]	Other Life Stages
30 Day Mean	N/A[3]	6.5	N/A[3]	5.5
7 Day Mean	9.5 (6.5)	NA	6.0	NA
7 Day Mean Minimum	N/A[3]	5.0	N/A[3]	4.0
1 Day Minimum[4]	8.0 (5.0)	4.0	5.0	3.0

CIRCULAR WQB-7
DETAILED NOTES OF EXPLANATION

[1] These are water column concentrations recommended to achieve the required inter-gravel dissolved oxygen concentrations shown in parentheses. For species that have early life stages exposed directly to the water column, the figures in parentheses apply.

[2] Includes all embryonic and larval stages and all juvenile forms to 30-days following hatching.

[3] N/A (Not Applicable).

[4] All minima should be considered as instantaneous concentrations to be achieved at all times.

(16) Aquatic Life Standards apply to surface waters only.

17) The Human Health Criteria apply to all waters with a public water supply and/or an aquatic life use. For surface waters the Standard is the more restrictive of either the Aquatic Life Standard or the Human Health Standard.

18) The Narrative Standards are located in the Water Quality Standards, Narrative Criteria section.

19) The required 'Reporting Value' is the Department's best determination of a level of analysis that should be achieved in routine sampling. It is based on levels actually achieved at both commercial and government laboratories in Montana using accepted methods. 'Reporting Value' is the detection level that must be achieved in reporting ambient or compliance monitoring results to the Department. Higher detection levels may be used if it has been demonstrated that the higher detection levels will be less than 10% of the expected level of the sample.

20) Applicable to surface waters only.

21) Applicable to ground waters only.

22) Estimated Detection Levels (EDL's) are used as "Trigger Values" whenever MDL's are unavailable. Trigger Values are used to determine whether-or-not a given increase in the concentration of Toxic parameters is significant or non-significant as per the non-degredation rules.

23) Levels of individual petrochemicals in the water column should not exceed 0.010 of the lowest continious flow 96-hour LC_{50} to several important freshwater species, each having a demonstrated high susceptibility to oils and petrochemicals.

24) Settleable and suspended solids should not reduce the depth of the compensation point for photosynthetic activity by more than 10 percent from the seasonally established norm for aquatic life.

CIRCULAR WQB-7
DETAILED NOTES OF EXPLANATION

(24) Settleable and suspended solids should not reduce the depth of the compensation point for photosynthetic activity by more than 10 percent from the seasonally established norm for aquatic life.

(25) CASRN is an acronym for the American Chemical Society's Chemical Abstracts Service Registry Number.

(26) NIOSH RTECS number is a unique number used for accession to the National Institute For Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances.

(27) SAX number in the format AAA123 is a unique number for identification of materials in the Dangerous Properties of Industrial Materials, authors N. Irving Sax and Richard J. Lewis, publisher Van Nostrand Reinhold.

APPENDIX A

Table 1

FORT PECK ASSINIBOINE & SIOUX INDIAN RESERVATION, MONTANA

STREAM BENEFICIAL USE DESIGNATION

STREAM SEGMENT DESCRIPTION	BENEFICIAL USE DESIGNATION	MODIFICATIONS AND QUALIFIERS
Big Porcupine Creek		
1. North Border of Reservation to Middle Fork	Primary Contact Recreation	Intermittent waterbody
	Class 1 Warm Water Aquatic Life	Intermittent waterbody
	Agricultural	
2. Middle Fork to East Fork	Primary Contact Recreation	Intermittent Waterbody
	Class 1 Warm Water Aquatic Life	Intermittent Waterbody
	Agriculture	
3. East Fork to Missouri	Primary Contact Recreation	Intermittent Waterbody
	Class 1 Warm Water Aquatic Life	Intermittent Waterbody
	Agriculture	
Little Porcupine Creek		
1. North Border of Reservation to Tomato Can Creek	Secondary Contact Recreation	Intermittent Waterbody
	Class 1 Warm Water Aquatic Life	Goal

Table 1

FORT PECK ASSINIBOINE & SIOUX INDIAN RESERVATION, MONTANA
STREAM BENEFICIAL USE DESIGNATION

STREAM SEGMENT DESCRIPTION	BENEFICIAL USE DESIGNATION	MODIFICATIONS AND QUALIFIERS
Little Porcupine cont'd	Agriculture	
2. Tomato Can Creek to Missouri River	Secondary Contact Recreation	Intermittent Waterbody
	Class 1 Warm Water Aquatic Life	Intermittent Waterbody
	Agriculture	
Wolf Creek		
1. Headwaters downstream to Boudary of Section 29 & 31, T29N, R46E	Priamry Contact Recreation	
	Class 1 Cool Water Aquatic Life	Goal
	Agriculture	
2. Top of Section 32, T29N, $46E to Missouri River	Primary Contact Recreation	
	Class 1 Cool Water Aquatic Life	Goal/Intermittent Waterbody
	Agriculture	

Table 1

FORT PECK ASSINIBOINE & SIOUX INDIAN RESERVATION, MONTANA
STREAM BENEFICIAL USE DESIGNATION

STREAM SEGMENT DESCRIPTION	BENEFICIAL USE DESIGNATION	MODIFICATIONS AND QUALIFIERS
Missouri River		
1. Southern border of Reservation to center of River	Public Water Supply	Goal
	Class 1 Cool Water Aquatic Life	
	Primary Contact Recreation	
	Industrial	
	Navigation	
	Agriculture	
Tule Creek		
1.Headwaters downstream to Missouri River	Secondary Contact Recreation	Intermittent Waterbody
	Class 2 Cool Water Aquatic Life	Intermittent Waterbody
	Agriculture	Intermittent Waterbody
Poplar River		
1. North Border of Reservation to Highway 13 Crossing	Primary Contact Recreation	
	Class 1 Cool Water Aquatic Life	

Table 1

FORT PECK ASSINIBOINE & SIOUX INDIAN RESERVATION, MONTANA

STREAM BENEFICIAL USE DESIGNATION

STREAM SEGMENT DESCRIPTION	BENEFICIAL USE DESIGNATION	MODIFICATIONS AND QUALIFIERS
Poplar River cont'd	Agriculture	
2. Highway 13 to Long Creek	Primary Contact Recreation	
	Class 1 Cool Water Aquatic Life	
	Agriculture	
3. Long Creek to O'Connor Crossing	Primary Contact Recreation	
	Class 1 Cool Water Aquatic Life	
	Agriculture	
4.O'Connor Crossing to Missour River	Primary Contact Recreation	
	Class 1 Warm Water Aquatic Life	Class 1 Cool Water Aquatic Life Goal
	Agriculture	
Smoke Creek		
1.Headwaters downstream to Big Muddy Creek	Primary Contact Recreation	
	Class 1 Warm Water Aquatic Life	
	Agriculture	

Table 1

FORT PECK ASSINIBOINE & SIOUX INDIAN RESERVATION, MONTANA

STREAM BENEFICIAL USE DESIGNATION

STREAM SEGMENT DESCRIPTION	BENEFICIAL USE DESIGNATION	MODIFICATIONS AND QUALIFIERS
Big Muddy Creek		
1. Reservation border to Wolf Creek	Primary Contact Recreation	
	Class 2 Warm Water Aquatic Life	Goal
	Agriculture	
2.Wolf Creek to Smoke Creek Confluence	Primary Contact Recreation	
	Class 2 Warm Water Aquatic Life	Goal
	Agriculture	
3. Smoke Creek to Missouri River	Primary Contact Recreation	
	Class 2 Warm Water Aquatic Life	Goal
	Agriculture	

APPENDIX B

Table 2.
FORT PECK ASSINIBOINE-SIOUX INDIAN RESERVATION
PHYSICAL AND BIOLOGICAL CRITERIA

Parameter	Recreational		Aquatic Life				Domestic
			Class 1	Class 1	Class 2	Class 2	Water Supply
	Primary	Secondary	Cool Water	Warm Water	Cool Water	Warm Water	
	Contact	Contact	Biota	Biota	Biota	Biota	
PHYSICAL							
pH[1]** (standard units)	6.5-9.0	6.5-9.0	6.5-9.0	6.5-9.0	6.5-9.0	6.5-9.0	6.5-9.0
Dissolved Oxygen[2]	Refer	to	FPRWQCT	in	Append.	B	
Temperature (maximum values)			23°C	27°C	23°C	27°C	
Solids		See	Narr.	Critera	Section	5	
BIOLOGICAL* **							
Fecal Coliforms[3] #/100 mls	200	200					200
E.Coli[7]	Refer to	Reference 7					
Taxa Richness[4]			5	5	5	4	
FBI[5]			6.5	7.0	7.5	7.5	
EPT Index[6]			3	2	1	1	

**All numerical references are listed in the "REFERENCES FOR TABLE 2: PHYSICAL AND BIOLOGICAL CRITERIA" in Appendix C on page C-2 of this document

*** Biological Criteria do not apply to the Missouri River at this time

REFERENCES FOR TABLE 2: PHYSICAL AND BIOLOGICAL CRITERIA

1. Induced variation of hydrogen ion concentration (pH) within the range of 6.5 to 9.0 must be less than 0.5 pH unit. Natural pH outside this range must be maintained without change. Natural pH above 7.0 must be maintained above 7.0.

2. For those streams designated as Class 1 & Class 2 Cool Water, a 0.5° C increase above naturally occurring water temperature is allowed within the range of 0°C to 18.9°C; within the naturally occurring range of 18.9°C to 19.2°C, no discharge is allowed which will cause the water temperature to exceed 19.4°C; and where the naturally occurring water temperature is 19.2°C or greater, the maximum allowable increase in water temperature is 0.3°C. A 1.1°C-per-hour maximum decrease below naturally occurring water temperature is allowed when the water temperature is above 12.8°C, and a 1.1°C maximum decrease below naturally occurring water temperature is allowed within the range of 12.8°C to 0°C.

For those streams designated as Class 1 & Class 2 Warm Water, a 1.7°C maximum increase above naturally occurring water temperature is allowed within the range of 0^0C to 25°C; within the naturally occurring range of 25°C to 26.4°C, no thermal discharge is allowed which will cause the water temperature to exceed 26.7°C; and where the naturally occurring water temperature is 26.4°C or greater, the maximum allowable increase in water temperature is 0.3°C. A 1.1°C-per-hour maximum decrease below naturally occurring water temperature is allowed when the water temperature is above 12.8°C, and 1.1°C maximum decrease below naturally occurring water temperature is allowed within the range of 12.8°C to 0°C.

3. During periods when the daily maximum water temperature is greater than 15.5°C, the geometric mean number of organisms in the fecal coliform group must not exceed 200 per 100 milliliters, nor are 10% of the total samples during any 30-day period to exceed 400 fecal coliforms per 100 milliliters.

4. Taxa Richness is the minimum value to support the designated use. Numerical biological criteria were based on benthic macroinvertebrate samples collected during June and/or July 1991 to 1994.

5. FBI, family biotic index, is the maximum value to support the designated use. Numerical biological criteria were based on benthic macroinvertebrate samples collected during June and/or July 1991 to 1994.

6. EPT Index, ephemeroptera, plecoptera, and trichoptera index, is the minimum value to support the designated use. Numerical biological criteria were based on benthic macroinvertebrate samples collected during June and/or July 1991 to 1994.

7. Criteria for the Primary and Secondary Contact Recreation Use:

   Based on a statistically sufficient number of samples (not less than 5 samples equally spaced over a 30-day period), the geometric mean of the E.Coli densities shall not exceed 126 per 100 ml. In addition, no single sample shall exceed 235 per 100 ml in water designated for Primary Contact Recreation or 406 per 100 ml in waters designated for Secondary Contact Recreation.

   Where exceedences of the geometric mean or single sample E.Coli criteria occur, the Tribes Department of Environmental Quality will take appropriate action to eliminate the source of the contamination. Where necessary, a sanitary survey procedure will be used to determine the source of the contamination.

APPENDIX C

TABLE 3
NUMERIC CRITERIA TO SUPPORT AGRICULTURAL USES (1)
(Except where indicated, all concentrations are ug/l)

Parameter	Agricultural Use	
	Livestock	Irrigation
Arsenic	-	100 (2)
Beryllium	-	100 (2)
Boron	-	750 (2)
Cadmium	50 (3)	-
Chromium	1000 (3)	-
Copper	500 (3)	-
Lead	100 (3)	-
Nitrate (as N)	100000 (3)	-
Nitrite (as N)	10000 (3)	-
Selenium	50 (3)	-
Zinc	25000 (3)	-

(1) Implementation of these criteria shall include case-by-case decisions regarding averaging period and allowable frequency of exceedence, and shall take into consideration the use to be protected and the available toxicological data for the substance, including whether the effects are acute or chronic.

(2) Criteria based on recommendations included in *Quality Critera for Water*, 1976, U.S. EPA; U.S. Government Printing Office: 1977 (0-222-904).

(3) Criteria base on recommendations included in *Water Quality Criteria*, 1972, National Academy of Sciences, March, 1973, EP A-R3-73-033.

APPENDIX D

A SUMMARY

OF THE

BIOCRITERIA PROGRAM

DEVELOPED BY THE

FORT PECK ASSINIBOINE AND SIOUX TRIBES

OFFICE OF ENVIRONMENTAL PROTECTION

POPLAR, MONTANA

Prepared by

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December 1997

INTRODUCTION

The U.S. Environmental Protection Agency (EPA) has been given the authority under the Clean Water Act to direct the development of programs that evaluate, restore and maintain the chemical, physical, and biological integrity of the Nation's waters. In 1991, under the direction of EPA, the Fort Peck Tribes (Tribes) Office of Environmental Protection (OEP) implemented a biological monitoring (biomonitoring) and assessment (bioassessment) component to their surface water monitoring program.

Prior to inclusion of the biological component, monitoring of streams and rivers on the Fort Peck Reservation (Reservation) included collecting physical and chemical (physicochemical) water quality data on a quarterly time frame. While physicochemical data collection contributes to an overall assessment of stream health, it generally provides only a "snapshot" of what is happening in terms of overall integrity and does little in terms of detecting or assessing aquatic life use impairment. In addition to providing a means of assessing the biological condition of aquatic communities, biological monitoring and assessment provides the OEP with the "final piece of the puzzle" in an integrated, comprehensive assessment of surface water quality. While biomonitoring is important for long-term water quality trend analysis and site prioritization, one of the Tribes' primary goals is to develop biological criteria as a basis for protecting existing designated aquatic life uses. In turn, the Tribes will use biocriteria to more effectively manage aquatic resources on the Reservation

DESCRIPTION OF STUDY AREA

The Fort Peck Reservation (Reservation), located in northeastern Montana, is home to the Assiniboine and Sioux Tribes (Figure 1). This two million acre reservation lies on the western edge of the Northwest Glaciated Plains ecoregion and northeast corner of the Northwest Great Plains ecoregion (Omernik 1987). Within the reservation are seven major drainages (Big Porcupine Creek, Little Porcupine Creek, Wolf Creek, Tule Creek, Poplar River, Smoke Creek, and Big Muddy River), all of which are tributaries to the Missouri River. Of this drainages, Wolf Creek, Poplar River, and Big Muddy River are perennial, while the others are generally seasonal, intermittent streams.

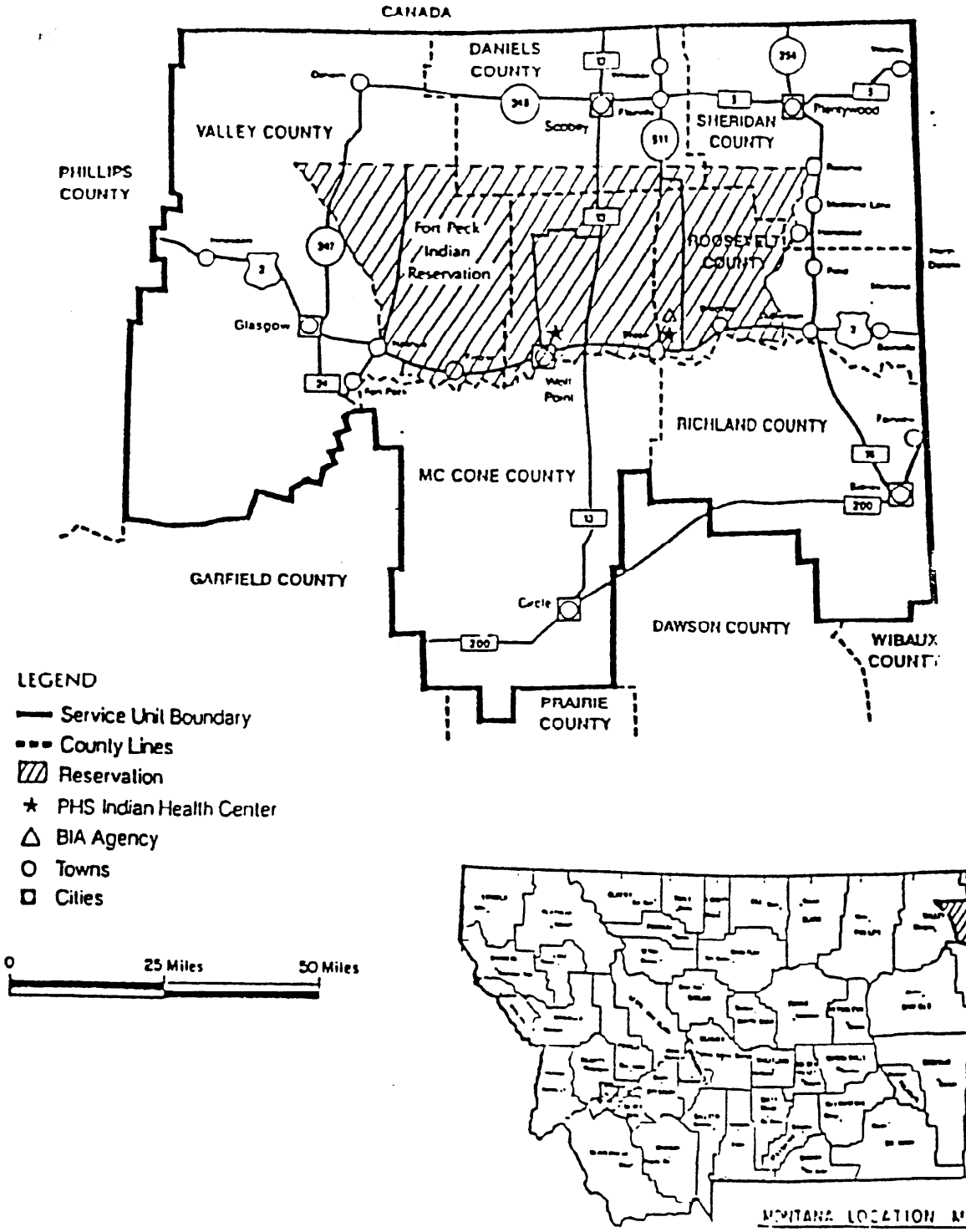
The climate of the region is typical of wind-swept northern plains with cold winters and warm summers. Precipitation occurs primarily during the spring which leads to the intermittent nature of most streams.

Agriculture, the most serious cause of stream degradation, alters stream flow, presents a form of nonpoint and point source pollution, and is generally responsible for reduced riparian habitat quality. Although industry exists on the Reservation, it presently does not pose a major problem to water quality. Oil development on the Reservation does, however, present a potential threat as surface water discharges could possibly contaminate surface and ground water resources.

FIELD SAMPLING METHODS

The Fort Peck Tribes Office of Environmental Protection (OEP) is utilizing benthic macroinvertebrates, in conjunction with physicochemical monitoring and riparian habitat assessments, as a means to determine biological integrity and overall stream health. While periphyton and fish can also be used to assess the biological integrity of streams, the OEP chose benthic macroinvertebrates due to their high relative abundance, ease of collecting and

Figure 1. Location of the Fort Peck Reservation, Montana.



identification, and ability to integrate and detect aquatic life use impairment.

Since 1991, the OEP has routinely collected samples of benthic macroinvertebrates from 16 sites on major streams across the Reservation. Criteria for selecting monitoring sites included their representativeness of the stream and proximity to sources of potential pollution. Monitoring sites were also selected based on accessability.

During 1991, baseline benthic macroinvertebrate data was collected during each month from April through September. Taking into consideration life history information, relative abundances of benthic macroinvertebrates, and stable stream conditions, it was determined that samples collected either in June or July would provide the most reliable indiction of stream health. (Note: June 21 to September 21 corresponds to the index period for benthic macroinvertebrate sampling developed by the Montana Department of Environmental Quality (DEQ) Water Quality Division (WQD).) For trend monitoring purposes and to minimize potential between year variance, the OEP collects samples as close as possible to the same date each year.

While many benthic macroinvertebrate field sampling methods and techniques exist, OEP selected a kicknet as its gear of choice. Benthic macroinvertebrate samples are collected using a one square meter kicknet with mesh size of 0.5 mm. The net, fastened to its sides by two wooden dowels, is held firmly against the stream bottom by a technician standing downstream of the net. A second technician then disturbs a one square meter area immediately upstream on the kicknet for approximately 30 seconds, thereby dislodging organisms that are carried into the net. The contents of the net are briefly examined, recorded on a field data sheet, and placed into a properly labeled container containing 10% formalin or other appropriate preservative.

Riparian habitat is assessed at all sites where biological samples are collected. The OEP uses a visual based method of habitat assessment developed by Barbour and Stribling (1991). Habitat assessment acknowledges the relationship between habitat condition and biological condition and is critial to the interpretation of biological data. Physicochemical monitoring is also conducted in conjunction with biological sampling and riparian habitat assessment.

LABORATORY AND DATA ANALYSIS

Laboratory Analysis

Benthic macroinvertebrate samples are processed and subsampled in the laboratory. Processing involves throughly washing and rinsing each sample in a 500 um sieve to remove preservative and fine particulate matter. Organic litter (detritus) and inorganic matter (sand and gravel) are carefully rinsed and removed from the sample. The sample is then placed into a 30 cm x 45 cm tray with a white bottom that is marked into 5 cm x 5 cm squares. Each square is assigned a number. Water is added to the tray to allow for even distribution of the organisms in the sample. Squares are randomly selected and all organisms removed until the total number of organisms removed from the sample is between 90 and 110. Protocols have been established to deal with most situations that arise when subsampling (i.e., any organism lying over a line separated by two squares is considered to be in the square containing its head; any organism lying completely over a line separated by two squares is considered to be in the square if the line is either the top or right line).

The OEP has implemented family-level taxonomic identification into its benthic macroinvertebrate protocol. While genus/species level identification allows for greater

sensitivity and likely provides a more accurate assessment of biological integrity, several factors were taken into consideration to choose family-level identification. These factors include 1) additional time taken to identify organism to lower (genus/species) taxonomic levels, 2) additional equipment and supplies needed for genus/species level identification, and 3) taxonomic experience and expertise of personnel identifying benthic macroinvertebrates.

Data Analysis

Metric Selection

In the past, several approaches have been used to analyze benthic macroinvertebrate data. These approaches include the use of an indicator species, a single index, and more recently the multi-metric approach. The multi-metric approach incorporates data on species richness, pollution tolerance, community balance, trophic composition, and relative abundance. After reviewing the literature and consulting with various sources, the OEP determined that the multi-metric approach would provide the most reliable method of assessing biological integrity and determining potential causes and levels of impairment.

During the first four years of the biomonitoring program, eight metrics (or measures) were used to assess biological integrity (Table 1). Metric selection during this "ground breaking" period was based soley on Protocol II (Benthic Macroinvertebrates) in the rapid bioassessment quidance document developed by the U.S. EPA (Plafkin et al. 1989). After review and evaluation of the eight metrics in 1995, in was determined that several metrics were not suitable for use. Alternative metrics were evaluated and, in 1995, several revisions in the OEP protocol were proposed. Four metrics were dropped from the original eight and replaced with four alternative metrics (Table 1). Previous data from subsequent years were revisited and raw metric values were calculated using the new set of metrics.

Reference Condition

From 1991 to 1994, the reference site approach was used to develop metric scoring criteria. Such an approach uses the assumption that a minimally impaired site (reference site) serves as a reference against which impaired sites can be compared. The West Fork of the Poplar River was selected as the Reservation-wide reference site. Ironically, the Montana Department of Environmental Quality (MT DEQ) Water Quality Division (WQD) also selected the West Fork of the Poplar River as a reference stream during an independent assessment of Montana streams conducted by that agency.

During its review of metrics and metric scoring criteria in 1995, the OEP abandoned the reference site method and adopted the reference condition concept. A reference condition represents potentially attainable biological status or biological integrity of an aquatic system. The OEP developed a Reservation-wide reference condition by analyzing benthic macroinvertebrate and riparian habitat quality data from least disturbed or minimally impaired reference sites.

Biological Condition Scoring Criteria

In addition to the metric revisions, revisions also occurs in metric scoring criteria during 1995. A summary of the 1991 to 1994 and 1995 to 1996 metric scoring criteria is presented in Table 2 and Table 3, respectively. In both cases, biological condition scores were computed as

Table 1. Metrics used from 1991 to 1996.

Metrics used during 1991- 1994

1. Taxa Richness
2. Modified Family Biotic Index
3. Scraper/Filtering-Collector Ratio
4. EPT/Chironomid Ratio
5. Percent Dominant Family
6. EPT Index (Richness)
7. Community Loss Index
8. Percent Shredders

Metrics used during 1995-1996

1. Taxa Richness
2. EPT Richness
3. Modified Family Biotic Index
4. Percent Dominant Family
5. Percent Collectors[a]
6. Percent EPT[a]
7. Percent Shredders and Scrapers[a]
8. Percent Diptera and Non-insect[a]

[a]Denotes change from previous interval

Table 2. Metric scoring criteria used from 1991 to 1994.

	Metric	6	3	0
1.	Taxa Richness	11-14	6-10	0-5
2.	Modified Family Biotic Index	≤ 4.0	>4.0-6.8	>6.8
3.	Scraper/Filtering-Collector Ratio	>0.72	0.24-0.72	<0.24
4.	EPT/Chironomid Ratio	>52	17-52	<17
5.	Percent Dominant Family	<30	30-50	>50
6.	EPT Index (Richness)	>6	5-6	<5
7.	Community Loss Index	<0.5	0.5-4.0	>4.0
8.	Percent Shredders	>40	20-40	<20

Biological Condition (Impairment) Rating

Total Metric Score	Biological Condition Category
≥ 38 =	Non-impaired
14-35 =	Moderately impaired
≤ 10 =	Severely impaired

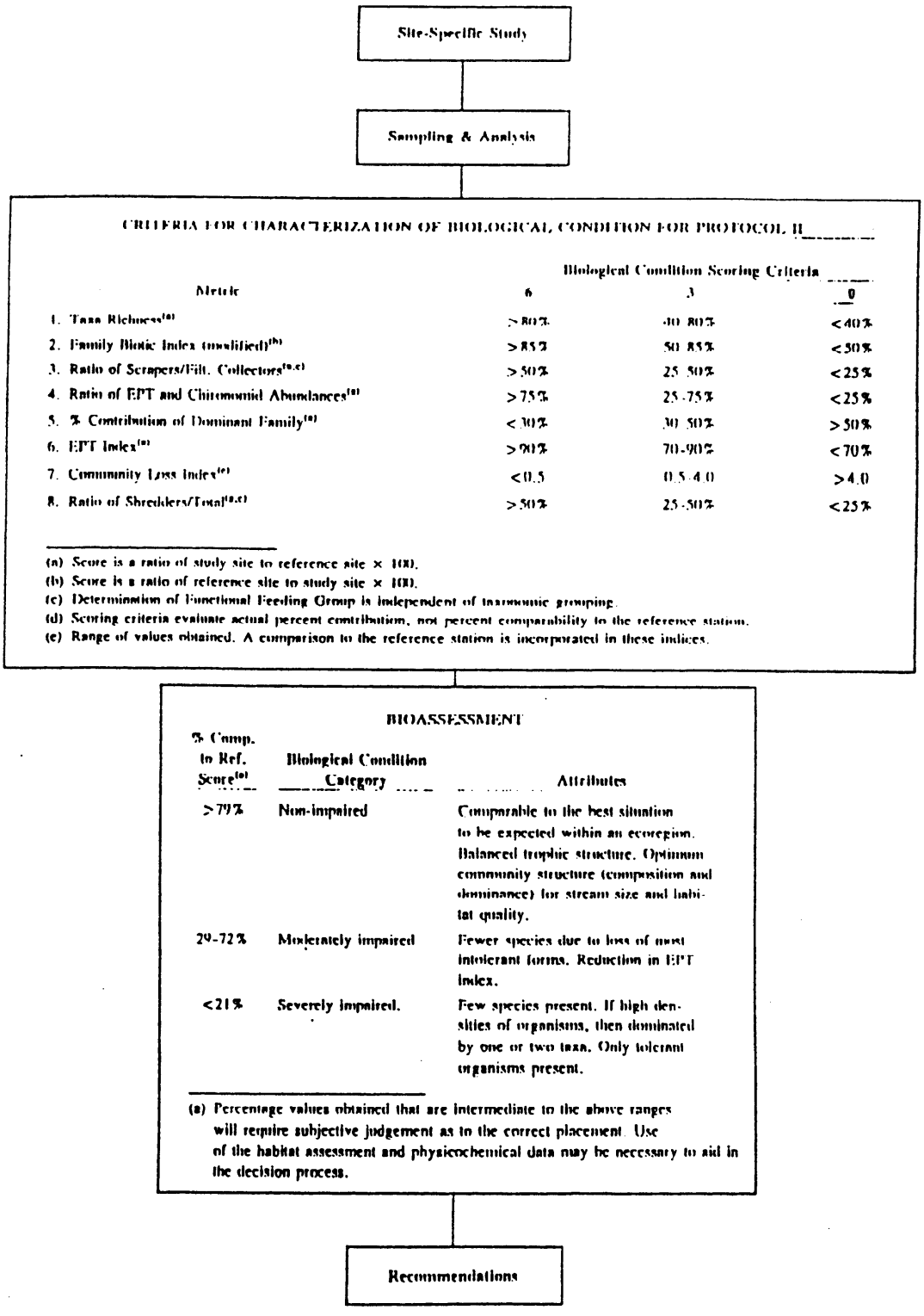
Table 3. Metric scoring criteria used during 1995 to 1996.

	Metric	3	2	1	0
1.	Taxa Richness	>10	8-10	5-7	<5
2.	EPT Richness	>5	4-5	2-3	<2
3.	Modified Family Biotic Index	<5	5-6	>6-7	>7
4.	Percent Dominant Family	<30	30-45	>45-60	>60
5.	Percent Collectors	<60	60-80	>80-95	>95
6.	Percent EPT	>50	>30-50	10-30	<10
7.	Percent Shredders and Scrapers	>30	>15-30	3-15	<3
8.	Percent Diptera and Non-insect	<30	30-50	>50-70	>70

Biological Condition (Impairment) Rating

Total Metric Score		Biological Condition Category
> 18	=	Non-impaired, aquatic life use attainment
12-18	=	Moderately impaired, aquatic life use attainment, but threatened
< 12	=	Severely impaired, aquatic life use nonattainment

Figure 2. Flowchart of Rapid Bioassessment Protocol II (Benthic Macroinvertebrates) (Plafkin et al. 1989).



follows:

1) Compute raw metric values.
2) Determine the metric scores based on the respective range ((0, 3, or 6 in 1991 to 1994) or (0, 1, 2, or 3 in 1995 to 1996)).
3) Sum all metric scores for each site.
4) Assign biological condition (impairment) rating.

As previously mentioned, metric scoring criteria used from 1991 through 1994 generally reflected guidelines set forth by EPA Rapid Bioassessment Protocol II (Figure 2) (Plafkin et al.1989). Under this protocol, each metric received a score of 0, 3, or 6. With eight metrics, a total metric score of 48 was possible for a site. The percentage of the total possible metric score used in determining biological condition were similar to those used in the EPA guidance document (Plafkin et al. 1989). Under this method, sites receiving >79% of the total possible metric score were rated as non-impaired, sites receiving 29-72% of the total possible metric score were rated as moderately impaired, and sites receiving <21% of the total possible metric score were rated as severely impaired (Table 2).

In 1995, a reference condition was determined for each metric by analyzing the range of raw metric values from previous years and selecting the value(s) which was representative of least disturbed conditions. Subsequent scoring criteria were developed by applying the 75th, 50th, and 25th quartile to the range of raw metric values and by assigning metric scores of 3 (>75th quartile), 2 (50th to 75th quartile), 1 (25th to 50th quartile), and 0 (<25th quartile). A method to determine biological condition was also developed that was more compatible with the revised metric scoring criteria. Under this revised method, quartiles similar to those used in developing metric scoring criteria were employed where sites receiving >75% of the total metric score were rated as non-impaired, sites receiving 25-75% of the total metric score were rated as moderately impaired, and sites receiving <25% of the total metric score were rated as severely impaired (Table 3).

BIOLOGICAL CRITERIA DEVELOPMENT

Biocriteria are standards developed to protect and manage water resources. Biocriteria fall into two categories, namely, narrative and numeric. Narrative biocriteria are general statements of attainable or attained conditions of biological integrity and water quality for a given use designation. Narrative biocriteria are intended to protect and manage existing water resources and are designed to form a basis for expanding biological monitoring and assessment and to develop subsequent numeric biocriteria. Numeric biocriteria include discrete quantitative values that summarize the status of the biological community and describe the expected condition of the biological community for various designated uses. In both cases, biocriteria that serve the intended purpose should represent least impaired biological integrity, protect the site against further degradation, and stimulate restoration of impaired sites. Both narrative and numeric biocriteria were developed based on data collected during 1991 to 1994 from minimally impaired reference sites and an expected reference condition for streams on the Reservation.

The OEP developed narrative biocriteria to protect aquatic use classifications. Following is the narrative biocriteria adopted by the Tribe:

> **Reservation waters shall be free from substances in concentrations or combinations that would adversely alter the structure and function of aquatic communities, as defined by the reference condition.**

The OEP has also developed draft numeric biocriteria to protect designated aquatic use classifications. Following is the numeric biocriteria being proposed by the Tribe:

Designated Use Classification	Taxa Richness[a]	Family Biotic Index[b]	EPT Index[a]
Class I Cool Water Aquatic Life	5	6.5	3
Class I Warm Water Aquatic Life	5	7.0	2
Class II Cool Water Aquatic Life	5	7.5	1
Class II Warm Water Aquatic Life	4	7.5	1

[(a)] Minimum value to support designated aquatic life use attainment.
[(b)] Maximum value to support designated aquatic life use attainment.

According to the draft numeric biocriteria, any site failing to attain any one of the three minimum or maximum values based on its designated use classification would be categorized as failing to meet designated aquatic life use attainment.

The Tribe has submitted its biocriteria to EPA and is awaiting subsequent comment and approval. Approval by EPA would allow the biocriteria to become one of the tools the Tribe would use to identify impaired streams and protect streams on the Reservation from further degradation.

QUALITY ASSURANCE/QUALITY CONTROL

With any environmental monitoring program, quality assurance (QA) and quality control (QC) are critical steps in acquiring scientifically valid data. Prior to implementing its biological monitoring and assessment program, the OEP received EPA approval of its Quality Assurance Project Plan (QAPP). The OEP followed specific guidelines established by EPA in developing this document. Emphasis on the importance of strict adherence to QA/QC is stressed by OEP in all of its operations. Staff training involves periodic review of the QAPP and standard operating procedures.

CONCLUSION

MILESTONES

The Fort Peck Tribes Office of Environmental Protection has been successful in developing a program to assess biological integrity of streams on the Fort Peck Reservation. These efforts have evolved from an initial pilot study designed to determine basic biological aspects of benthic macroinvertebrate communities to the development of biocriteria as a means of assessing causes and levels of biological impairment. Considerable progress has been made in developing a protocol that provides the Tribes with a tool to protect critical surface water resources.

CHALLENGES

Thus far the entire bioassessment process used by the OEP has been based on methods developed by numerous state and federal agencies. To a large extent, several of these methods

have been revise based on available data and best professional judgement. The OEP hopes to incorporate statistical analysis of data to better understand natural variability and validate existing biocriteria.

The next step in expanding the Tribes' biological monitoring and assessment program will be to initiate the development of efforts aimed at wetlands.

RECOMMENDATIONS

It is recommended that state and tribal agencies implementing a biological monitoring and assessment program and/or developing biocriteria consider the gamut of protocols currently used by other agencies. Protocols are unique and are not universal in application. Therefore, careful consideration should be given to strengths and weaknesses of each protocol. Keeping in mind specific goals and objectives, available resources, and the unique roles of each agency, existing protocols should be used as a foundation for building individual state and tribal programs.

The OEP recommends the following steps as a guideline in developing biological monitoring and assessment programs:

1) Define program goal and objectives while setting priorities.
2) Develop a biological protocol while adhering to clear goals and objectives.
3) Establish a process for determining reference conditions.
4) Assemble water quality data from previous studies and incorporate that data with biosurvey data. Work with other tribal, state, and federal agencies in obtaining data and input.
5) Evaluate potential metrics and metric scoring criteria as a basis for determining level of impairment and aquatic life use attainment.
6) Revisit metrics to determine their usefulness in assessing biological integrity. Revise and fine tune metric scoring criteria and impairment ratings as appropriate and as additional biosurvey data becomes available.
5) Develop biocriteria.
6) Evaluate and revise biocriteria.

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